

THE AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of Man.--Washington.

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The Improvement of Home-bred Stock.

As it will be the object of the American Agriculturist to confer the greatest benefits on the greatest numbers, to save expense to its readers, as well as enable them to make the most out of their capital, to help the poor man and moderate farmer, equally with those of larger property, we shall in this number, point out some of the means which farmers possess for this object, leaving the fuller discussion of the subject to some future time.

We assert that for the achievement of this most desirable object, every man has, to a certain extent, the means in his own hands.—We would not be understood to say, that every

farmer in the country, can, at his option and without expense, procure the best roadsters or draught horses; or at once secure a herd of short horns, or Devons, or Herefords, or Ayreshires; that he can will his old flock of long legged, thin woolled miserable carcassed sheep into fine merinos, massive Southdowns, or Cotswolds; or his razor-backed, bristly tribe into thorough bred Berkshires—but, that in the exercise of a keen discernment and sound judgment, enlightened by the experience he will find abounding in judicious and practical works on agriculture, and which it will be the great purpose of our work to give and illustrate, he can proceed with greater or less speed, in the accomplishment of an object so desirable to every man. We must except one class, if any such there be, from this remark, of otherwise general application; and none are to be excepted, but such as have breeds already beyond the possibility of further improvement. Great caution on their part, however, is necessary, lest some misstep in their course, jostles them from the pinnacle, and subjects them again to the labor and delay of regaining it. Such must recollect that, "facilis descensus averni," &c., which rendered for our purpose simply is—it is easy enough to go down hill, but hard work to get back again.

Beginning with what is now in the farmers' hands, we say, the first thing for the permanent improvement of the constitution and character of stock is, to feed liberally and look well to it, especially while young. We give no countenance to the stuffing system, but on the contrary, we believe the unnatural forcing of any animal destined for breeding, the most pernicious and destructive to its constitution that can be practised; and if the only alternative were perpetual starvation, or perpetual surfeit,

we would unhesitatingly prefer the former; and it has another decided advantage in its economy. By liberal feeding, we mean a full supply of such wholesome and nutritious food, as without cloying and loading an animal with fat, will sustain it in a constant and sufficiently rapid growth, and afford an early though not premature development of all its desirable qualities.

To illustrate our meaning, we will say, that the young of all animals are best provided for in the early stages of their existence, by the bountiful provision of nature, afforded in the well filled udders of their healthy and well fed dams. And if from any cause this supply is diminished or withheld, the deficiency must be made up by other and equally nutritious and digestible food. This, with a range, if the season permit, in a fresh pasture, is sufficient till weaned. For colts and calves, we would recommend the addition of a little oat or barley meal, for a short time, to prevent any falling off, which may be continued with the colt, if the farmer can afford it, in addition to all the good hay it will eat, till the grass will afford a plentiful bite in the following spring. The calf and lamb may be supplied with a few roots, besides their hay through the winter, or in place of them, a small allowance of oatmeal, bran, &c. After this, abundant and sweet pasturage for summer and good hay for winter, will suffice to keep the animals advancing steadily towards maturity, though if more rapid growth and larger size be required, the liberal feeder may add occasionally roots or light grain in any moderate quantity, till the animal has acquired its growth. The pig being an omnivorous animal, may be allowed a freer range and 'larger liberty' in the variety of his viands, and if restricted in the use of too hearty or solid food, he will be found to thrive apace on even a moderate supply.

During all this time, however, they should be protected from cold and storms, by a warm and effectual shelter, and dry, comfortable beds, and if there be leisure to apply the brush and card, so much the better. No disease should be allowed to fasten on them, to check their growth and impair their organs. These are briefly the general rules to be observed in the rearing and care of the stock, till they are sufficiently advanced to become producers themselves.

We have then another and not less important duty to perform in the selection of those designed for breeders. To guide us in this choice, we have the important axiom, observed by all judicious and experienced breeders, viz. "that like begets like;" a rule, which, though not universal in its results, is yet the only one that can be pursued with safety. If we want to

procure a good draught horse, we must select parents as near our ideas of what is right as possible. They must be compact, and heavily made; broad in the chest, somewhat projecting over the fore legs; round barrel well ribbed home; a good size bone; plenty of firm muscle; a clean, well coated skin; a good feeder and tractable in his disposition. If a roadster is wanted, we should look for more symmetry and fineness; more grace and elegance; more speed and more spirit. If a saddle horse be required, we can hardly tell you what to do; for there is not one in a thousand that is even a tolerable pad; but if you can find one of the true Arab mould, gentle though gay, spirited though subdued, with a rapid yet easy and delicious gait, half rack and half amble, and all canter, when asked, and bottom enough to sustain his pace; heed not his color or form, his size or his pedigree; but use it as the only means of affording you a chance for a luxury, we are not often indulged with in this latitude. If such an one be not within your reach, content yourself with any thing in your possession that may be adapted to other purposes; your hack or horse of all work, or any thing that will not stumble or sheer, for we hold there is no medium between a very good and very indifferent animal under the saddle—unless one can content himself with a moderate gait, when if a fast walker can be had that will get over the ground at the rate of five miles an hour, a compromise is then offered between ease and speed, and it is for each to decide according to his fancy.

If good working oxen are desired, and Herefords or Devons are not to be procured, as you cannot see the precise form or character in either the bull or cow, select such as in their general conformation, approach nearest the models required; but *much more is to be relied on in using such as belong to good working families.* A form somewhat relieved from the unwieldiness of the more bulky ox, should be selected, with longer legs; lighter carcass; firmer muscle; medium bone; slanting shoulder; well knit withers; broad chest spreading the fore legs well, yet not too deep; ribs well arched immediately behind the shoulders, affording ample room for the heart and lungs to play, and reaching well back and near the hips; a broad level back; and most especially a fine open countenance, with as much intelligence, and as kindly disposition as possible. Such an animal with proper attention and feed, will nearly come up to the horse in capacity and endurance, and when loosed from the yoke, will fatten kindly and pay the grazier as generously as the ploughman. The Devon and Hereford and their crosses, though unequalled for the yoke, are not surpassed for grazing and the shambles.

If cows are wanted for the dairy, *look to a good milking race on both sides.* This is not less important in the male than the female. His maternal ancestry, should throughout possess this quality. The cow, besides affording a large supply of rich milk, should exhibit as nearly as possible, certain developments of form, as being much more likely to have received her character through her descent, and more probably securing its perpetuation in her progeny. The color with some is paramount. Red, and nothing but red, will answer for their complexion; but while we allow a partiality for this color, and deny that it can be bettered, we must acknowledge we have seen choice milkers of almost every hue. Red, though in our opinion desirable, is not absolutely essential. But she should have a long, though light head; a clear placid eye; a long thin ear; small, waxy, tapering horns; or no horns at all, (for we never saw a polled, or hornless cow, that was not a good milker; though the Galloways are denied this character;) a thin, slender neck; without dewlap; full chest; clean, straight legs; light before and heavy behind; tail well set on, long and tapering; broad, level back; large, well developed milking veins; large udder and radiating teats, (standing or pointing out from the bag;) fine hair, and soft mellow skin; as little offal as possible; good constitution; hardy; quiet in the pasture; and mild and pleasant in her disposition. If you have a good breed, indigenous to the soil, possessing these qualities to a great degree, be cautious of changing, *for nothing is of more importance to stock than to be adapted to soil and climate.* There is an adaptation in size and character when judiciously managed, insensibly acquired by all kinds of stock for their peculiar location and feed, and injuries have been sustained by hasty innovations, that years have hardly rectified. Most of the short horns afford a valuable cross for the dairy where the pastures are abundant, though there are some exceptions among them as milkers; but with scant herbage and indifferent fodder, smaller hardy animals "to the manor born," whose ancestry for generations have been inured to privation, are unquestionably to be preferred.

If the object is exclusively to raise beef, in early maturity, great size, just proportions and beautiful symmetry, with a rapid and economical conversion of vegetable into animal food, the short horns cannot be surpassed. The great size and short legs of this valuable breed are, however, impediments to his safe and easy conveyance to market, and when an economical transportation is not afforded to those remote from it; a cross giving more length of leg without impairing the fattening qualities may be found peculiarly desirable. This can be effected by

both the Herefords and Devons, and without any sacrifice of fattening properties; and where the feed is occasionally short, perhaps either the last mentioned would be a proper substitute for the Durham.

If sheep are the objects of improvement, the first thing to consider is, what we most desire in them; a heavy carcass, rich and juicy for the table, with indifferent or medium wool; or small carcass and a choice fleece. If the latter, we must look to the Merino and Saxon alone, as affording it; but in the selection of such, particular regard should be had to a sound, healthy constitution. It is a mistaken opinion, unfortunately practised to the loss of thousands, that a fine woolled sheep is necessarily a tender one. Whoever practises on this theory, practises to an unnecessary loss. The Merinos have been brought to perfection on the cold mountains of Spain with an average latitude of the State of New-York; and the silken woolled Saxons have attained their unrivalled excellence in latitude 51°, under the chilling influence of the Erzeberg snows. And further, if a sickly or delicate constitution is the *necessary* appendage of a fine fleece, we should unhesitatingly say, abandon them altogether. Imperfection and disease in the animal frame, are only to be tolerated in man; nor scarcely then, but where the electric fire of genius blazes so intensely, that the vessel which supplies the oil is hidden by the flame. But we shall show in some subsequent number that the finest wool can cover a good carcass and a sound one too.

If a larger animal is required, affording a large though medium quality of fleece, it is afforded in the South Down. In this invaluable variety, every thing but the Merino or Saxon coat can be found. If desirable still further to enlarge the carcass and lengthen the wool at the expense of its fineness; we must look to the Cotswold, the Lincolnshire and the Bakewell; but care must be taken, if these last breeds are selected, that the feed be lengthened and thickened, and a larger range provided, for they cannot be sustained on the penurious pastures, that would afford the former an abundant supply. In breeding from either of the above, we must reject all such as have large offal; and if we must have horns at all, let them be as small as possible; head small and pointed; ears thin and not too large; tapering neck of moderate length, firmly set into the chest, which, as in all the preceding animals, must be wide, deep and projecting; broad and level back; round, plump and smooth throughout; legs standing wide and straight and but of moderate length; and the skin mellow and elastic. With such a form, we are sure to find a good constitution and rapid tendency to fat.

Need we describe the pig? The characteristics of what every body keeps should be universally known: and there are few who have not well noted the difference between the easy, gentle, quiet feeder, and the roaming, restless, thriftless gormandizer. The first is a pleasant appendage to every gentleman's or poor man's stock; the last ought to be driven beyond the Mississippi with the wolf and catamount tribe, as their worthy co-plunderers of the products of civilized life. The pig, then, should have a short, fine snout; an eye that will not look you out of countenance—nothing of the vermilion hue; a mouse ear we prefer; (though others that prefer large size may be compelled to take a flop ear with it;) a light jowl; a short neck; capacious chest; broad back, a little crowning if very long, or perfectly level if very short; belly well let down; legs short and standing on the toes; broad and deep hams; tail small and well set up, with a kink or two in it; little hair and no bristles; a soft handier; quiet habits; and any color you please. He should mature early, and fatten at any age between nine and eighteen months; eat moderately, and convert into pork on equitable shares whatever food he takes; returning as near one-fourth in weight as possible when nutritious, or if coarser and lighter, as much as he can afford.

To all this, the farmer may say, this is a very plausible theory, and we are willing to concede it may be true enough, but unfortunately we are beyond the reach of such improvement; our neighbors have not this fine stock, nor have we the means to go abroad and procure it. Well, then, gentlemen, we will advise you what to do. For your breeders use the very best animals you have or can procure, and if access to a male stock animal of the right kind can be had, don't button up your pockets when the price is stated, but pay liberally. Every penny thus expended, is seed wheat scattered on a fertile soil that in a few months will return you ten or twenty fold. And when your young stock is produced, don't sell your best filley because she will bring a few dollars more than an indifferent one; or work her till superannuated, and breed from some crazy jade, because she is fit for nothing else. Don't take your best calf to the butcher and raise the others because they are worthless to him; but save your best, *your very best* heifer, and if your neighbors have not a better bull than your best cow affords, save that for use, though his carcass should be worthless when you have done with him, which it is not.

If your sheep are of the common kinds, any of the improved rams will benefit them, but do not attempt mixing the improved breeds, unless you are a skilful and experienced breeder.

They have been brought to their present perfection only by careful and judicious crossing. An unlucky cross may unsettle this nice adjustment, and from two races eminent in their own peculiar excellence, you may get a third with most of the faults and scarcely any of the merits of either. The points of a highly improved breed are like the well balanced elements in a chemical compound, that are brought together and sustained by their just proportions, scientifically arranged; if another element be presented or an excess of what is already held in combination, a disturbing principle is afforded, that by its attraction, resolves the elements into new and mischievous combinations, that successive generations may be required to re-establish. But no danger need be apprehended by crossing on to an indifferent stock—it might be difficult to make it worse, and there are ninety-nine chances in a hundred that it will be made better.

It is no reasonable objection to the ambitious though circumscribed farmer, that he cannot proceed so rapidly in his improvements if limited to selections not embracing the choicest breeds; or confined to crossing as his sole means of advancement. Whoever considers the immense difference between the various races of domestic stock, originally, and not remotely, perhaps, deriving their existence from the same head, will be struck with the rapid deterioration or improvement, resulting in a few generations from two opposite modes of treatment. As an apt illustration of the effect of food, climate and management, we would point to the English carriage and cart horses, and the Shetland pony—the Short horns, and the Kyloe and Kerry cattle—the Downs and Cotswolds and their meagre, misshapen progenitors—the improved pig every where, and the wolfish character of the wild boar acquired in two or three generations, when driven into the forests and abandoned to himself. But we need not further particularize, as every intelligent and observing farmer will find abundant illustrations if his range of observation be sufficiently extensive.

MANURE. Put on your land all the manure that can be scraped from your premises, or that you are entitled to from the road. Leave not a particle in the barn yard. It matters not how coarse or long it is, if you can plough it in. All you get from it before another season is clear gain, for it will lose but little more under the action of the sun and rains in the yard. If it cannot be used, place it in heaps and cover two feet thick with earth, which will inhale and retain most of its enriching gases till wanted.

Plaster of Paris.

GENTS.—We have heard many complaints among our farmers who use this important stimulant, and particularly from those who have but recently commenced its application, that it failed in numerous instances last year in developing its usual benefits. They doubt the goodness of the article, or its adaptation to their soils.

Our solution to their complaints and inquiries is, that it requires rains to dissolve or decompose the plaster, without which its application to crops is fruitless. The spring and summer of 1841 were unusually dry throughout a great part of the Northern States. For two or three months, we had little or no rains, and the grass, and early grain crops were uncommonly short. This we apprehend is the principal cause of the failure. We advise our agricultural friends, however, to repeat their regular course, and soon the present season may give a good account of the last year's application. At all events, our confidence is in no way impaired in the virtue of this stimulant.

Yours truly,

F.

As the application of **SULPHATE OF LIME**, more familiarly known as *Selenite*, *Gypsum*, or *Plaster of Paris*, is extensively and most beneficially made in this country as a manure, perhaps we cannot occupy the attention of our readers more advantageously, than by throwing together some facts connected with it. Of theories, we have many; but as they have not yet attained that certainty which we deem essential to any subject claiming the attention of practical farmers, the rule we have adopted for our present limits, will not allow our communicating them. The materials of gypsum, are lime, chemically combined with *sulphuric acid*; commonly known as *oil of vitriol*, or *vitriolic acid*; which is one of the strongest mineral acids, and consists of sulphur and oxygen, with the addition of a little water. This combination is essential to be understood by such as are making experiments on its use, and will serve to throw much light on the reasons for the different results obtained.

And, 1^o It generally has little or no effect on strong clay lands; unless applied in large quantities, say 15 or 20 bushels to the acre, when it has been known to change the character of a stiff clay in a single season, to a loose, friable, mellow and rich soil.

2^o It is used with great effect on dry, sandy, (not a barren sand,) or loamy soils.

3^o One to two bushels per acre, is considered a sufficient quantity to apply at once, though as high as six, have been sown with marked advantage.

4^o Its effects last through two seasons, and frequently much longer.

5^o It should be sown generally in April or May; (and always applied when the ground is dry,) thus affording an opportunity for dissolving it by the rains. Its application to crops as late

as June, have frequently been attended with decided advantages, though the large quantity of water required for dissolving it, being about 500 parts of water, at a temperature of 60° to one of gypsum, renders the advantage much more conspicuous when sown earlier.

6^o The effects are much more striking when applied with manure, and sometimes with lime.

7^o It is a stimulant, as well as manure, and has a tendency to exhaust the humus or geine already in the ground, which renders it necessary to add manures occasionally, when the crops are carried off the ground; when they are consumed on it, the soil is constantly improving without the addition of manure.

8^o It is in some instances a *specific food* of vegetables, by this means greatly increasing the quantity of some plants, as clover, sainfoin, and other of the broad leaf grasses; peas, corn, roots, &c.; while some of the narrow leaf grasses, and wheat, barley, oats, &c. are scarcely benefited by it.

9^o In opposition to the suggestion of our correspondent, we have well attested experiments of its immediate beneficial effect on crops suffering from drought, before any rains had come to its aid; it having been in some slight degree dissolved by copious dews.

10^o Its application in the neighborhood of salt water, has seldom been attended with benefit, owing undoubtedly to its combining with the saline vapor, waisted to it by the sea breezes.

11^o Frequent benefit is derived from its use, on vines and other plants infested with insects, for though the diluted acid constituting a portion of it, may be highly beneficial to the vegetable, it is poison to the insect.

12^o Wet lands are not improved by it.

13^o Many soils are already so highly charged with gypsum in their natural condition, as to derive no benefit from an additional quantity. There is scarcely any saline substance more generally diffused, it constituting a portion of almost every soil, and is contained to a greater or less extent, in all river and spring water; and giving to the latter especially, when in considerable quantity, the character of *hardness*.

From this cause, (its general and large diffusion), is unquestionably owing the want of effect on clay lands. These almost invariably contain considerable portions of *sulphur* and *lime*; we have then but to add a portion of oxygen to the sulphur, which is abundantly found in the soil, and water, and atmosphere, and we have the sulphuric acid, which brought into combination with the lime, gives us the gypsum. This enters directly into the substances of some plants, as we have seen above; and on others, it acts favorably, by its subsequent decomposition, and union with other substances, as pot-

ash; and especially by seizing on and fixing the ammonia, brought into contact with it by the dews and rains from the atmosphere. These multifarious operations of nature in her secret laboratory, with all the elements and under all the varied circumstances in which she works, are not so clearly detected, as to develop her *modus operandi* with sufficient certainty, to establish well defined and accurate theories. We therefore leave the subject for the practical farmer to experiment upon, with what little light we have thrown together on the subject above. And with all the theory in the world, *experience* as to its value to certain crops, under certain circumstances, and on certain soils, would be of more value to the farmer; and to him we must look for such experiments, as can alone afford any reasonable or correct foundation of the theoretic action of this important mineral. We will add, that another reason for the want of effect on clay soils, may be found, in the abundance of the sulphates of ammonia, potash soda, magnesia, alumina, &c. which they contain.

Our own use of gypsum has been limited, as the land we have cultivated for a few years past, has been a tenacious clay. On a field containing twenty acres, which was occupied with oats, sown on a freshly turned and unmanured soil; oats sown on a well manured piece, occupied for several preceding seasons with roots; and a large clover patch; we sowed in the latter part of May last year, about seven acres in different patches, at the rate of five or six pecks to the acre. The ground had become quite dry, and we had but slight rains afterwards, and though the whole season was remarkably dry, we had a large crop from each part of the field, (thus showing the superiority of a clay soil in drought); yet so far as we could discover, there was no apparent difference in the plastered or unplastered portions of the field. There may have been some advantage in the weight or nutritive character of the crop afforded by the plaster, but of this we could not judge, as our experiment did not go far enough to settle this point.

R.

A NEW METHOD OF PRODUCING CHOICE TREES.—We have seen the experiment successfully made, of producing young trees by binding around the stalk of a thrifty shoot, fine rich mould, which is kept firmly in its place by cloth or other bandages. This should be sufficiently moist, and applied soon after the buds begin to expand in spring. The bark in contact with the earth, ought to be punctured in several places, which gives facility to the protrusion of the new roots. When these are sufficiently developed, the stalk may be cut off below the earth.

and set out in a place congenial to its growth. D. J. Browne, Esq., informs us he procured a choice orange plant in this way, in the short space of six weeks, binding the earth around the stem by a single plaintain leaf, and at the expiration of this time it was transferred into a box of finely prepared mould, and brought from Brazil to this country, with the foliage and fruit upon it.

We are not certain this plan would answer for the production of all fruits, but the simplicity and ease with which the experiment can be made, entitle it to a thorough trial. Shall we hear from some of our correspondents the results of this suggestion next fall?

Tour in England. No. 2.

The country in and about Berkshire, is rather a grain, than stock producing district. It is in a high state of cultivation, and one of the most beautiful of the rural counties of England. It is a pleasant variety of hill and dale, and bounded on the north by the Thames, and crossed by the Loddon, the Embona, the Kenmet, the Ocks, and other branching rivulets. Its soil is various, with a greater or less admixture of clay, resting occasionally on limestone, but more generally on chalk, interspersed with flint. The vales are mostly alluvial, and quite fertile, especially that of the White Horse up the Ocks, and along the Thames, or rather the Isis, for the names are synonymous here. A few miles below the city of Oxford, the meadows have a width of two to three miles, with a good soil, reminding us strongly of the Sciota bottoms in the neighborhood of Chillicothe, though the latter are by far the most fertile. Lower down the meadows are much narrower, and so liable to overflowing that they are rarely plowed, but kept almost exclusively in grass. The herbage produced here, seemed often watery and coarse, and consequently afforded an ordinary quality of hay, and quite disappointed the expectation we had formed of it, from reading English books.

The Thames, England's mighty river, is here, some thirty to sixty miles above London, from forty to eighty yards wide, half filled with rushes and cat tails, and its water muddy and almost stagnant; and as for its tributaries, the Loddon, &c., we should dignify them in America, with the name of brooks or rivulets. We quite amused a fellow pedestrian, with showing off some of our school boy feats, with a long pole in hand, jumping them back and forth in their narrowest places at a running leap. Osier beds are occasionally planted along the streams, which prove a valuable crop, from the annual cuttings afforded for the basket makers.

The *four course system* generally prevails in this country, which is this:—1^o year, plow and manure highly, and plant with potatoes, beets, turnips, parsnips, or carrots. If these can be off the ground sufficiently early, the land is sowed to wheat for the 2^o year. If not, the following spring, it is sowed to oats or barley, with some of the grasses, clovers, or Italian rye. 3^o year, the grasses are fed off by hurdling sheep on the field, or if cut and fed to cattle, it is again manured, and the 4^o year is again sowed to wheat or other grain. It is simply, roots, grain, grass, and grain; a severe system of cropping, requiring a strong soil, and constant manuring to sustain it.

All cannot pursue this system without considerable modification. Sometimes instead of grain, peas and beans follow; vetches* also, winter and spring are sowed, and as soon as the former are fed off, rape† follows, which is again fed, and the field sown to wheat in the fall. Some adopt a five, six, or seven course system, when peas or beans with manure, will follow wheat, and these again followed by wheat or other grain; the lands sowed to grass; this mowed once, and then pastured a year or longer as circumstances require. The curious reader will find this subject treated very extensively in English works on husbandry, but our limits will not permit us to enlarge on this subject. We must here add that owing to the great difference in soil, climate, and prices of labor, and the products of the soil, practices most approved here, must be taken with great modification if adopted in our own country. In the vicinity of our large cities, when manure is abundant, and products high, the four course system may be adopted with great advantage, especially when the owner of the land has a

* *Tares*, (frequently called vetches,) are a species of pea. They are smaller than the common field pea, and either brown or black; the vines growing thicker, with smaller leaves, and never more than two feet high. Sheep are hurdled on them, or they are cut and fed green to cattle, horses and pigs.

† *Rape*, is of the cabbage tribe, but resembles the leaves of the ruta baga, though smaller. The stalk runs up in a spindle and flowers, producing seed much like the turnip. It is cultivated in England, principally to be fed to sheep, when nearly grown; after which it will sprout and furnish another crop. On the Continent, it is cultivated mostly for its seed, which is ground and pressed like flax seed, furnishing a valuable oil. The residuum is ground, and in the form of *rape dust*, is used for manure.

Trefoil and *Sainfoin*, are two kinds of small leaved clovers, which grow very thick, and are sometimes called *French clover*.

The *English Bean*, frequently cultivated in gardens in the United States, a large coarse vegetable growing on large upright stalks two and a half feet high, is in England frequently cultivated as a crop for animals, and yields fifteen to twenty-five bushels per acre.

family to employ on it. Under this system, England has doubled her products within a few years, and it is the opinion of many of her scientific farmers, that it may yet be vastly increased; and to effect it, every effort is made to advance her arts of husbandry to the highest standard.

Some of the implements of husbandry in Berkshire are rude and cumbersome in the extreme, especially the two wheeled plow, which is also common to the whole south of England, and notwithstanding the repeated, minute and exact published experiments made by Mr. Pusey, late President of the Royal Agricultural Society, who resides in this county, of the superiority of the lighter swing plows, it is adhered to with a prejudice and pertinacity, really surprising. It is of great length and weight, with a heavy axeltree in front, thick and clumsy almost as that attached to a cart. At each end of this, rolls an unequal wheel, one of a larger diameter than the other, to run in the furrow to keep the axeltree level. To this cumbersome machine, we do not recollect to have ever seen less than three, and frequently four stout cart horses hitched on in line, one before the other, driven by a boy walking along by the side, with a man to hold the plow. Of course in this way, as the hind horse approaches the end of the furrow, he has to do all the work to his great fatigue. The plowing is admirably done, but at what a needless expense.

We frequently conversed with intelligent gentlemen upon the subject of introducing lighter swing plows in the place of the bungling machine now in use among them, but they asked, good naturedly, "What shall we do? the men are accustomed to it and wont change." We replied, educate them to the new mode, or get younger men if the plowmen are too obstinate to adopt it. "Ah, all that may answer in America, but does not do in this part of England." But it does do, we are glad to say, now, to a greater or less degree, and many spirited farmers have entered into Mr. Pusey's views we understand with success. Other implements, such as harrows, scarifiers, cultivators, drills, and threshing machines of a good kind, we found in quite common use.

The farm work is done principally with horses of the large cart breed, which they put into work at three years old, and so keep them on till five or six, during which time they are more than earning their living, while improving in value, when they are taken to London and other parts of the kingdom and sold. In this way many with whom we conversed said that they were more profitable stock than cattle; others disputed this, and preferred oxen, which after working till past six years old, they

sold to the graziers, or fatted for beef. The cattle used here for the plow, were mostly a large coarse mixed Devon or Hereford, together with various crosses of other kinds, and when worked they were harnessed to the plow like horses, and not unfrequently wore the blind bridle. For roadsters, they use all kinds, from the thoro-bred with its various crosses, down to little rats of ponies, for children's hobbies, and ladies gigs and phaetons.

Cows are not abundant, and are kept mostly for family purposes. They are generally of the Jersey tribe, more or less crossed with the common stock of the country, and now and then a Short Horn with its grades may be found, but these are rare. We saw a few of the old Not sheep remaining, crossed with the South Downs, which adds to their fineness of points, and otherwise greatly improves them. The pure South Downs are kept here also in large numbers, and crossed sometimes with the Cotswold. This they have done in order to increase their size and obtain heavier fleeces, but the mutton of this cross is not so desirable as the pure Down. However, killed as they generally are at one year old, the same objection will not hold against it, as when the animal is longer kept and loads on such a quantity of fat.

If the Downs are in the neighborhood, the sheep are taken out by their shepherds every day during the season to pasture upon them. This change of food and exercise is very beneficial to their health, and every night they are brought home and folded with hurdles, on tares, clover, sain foin, or something of the kind, or it is cut and fed them standing in an adjoining field. An acre of cultivated grass will thus keep a hundred sheep from seven to ten days. In the winter they are folded on the turnip fields, fed a little straw or hay, and allowed to dig the roots for themselves, or as is more generally done by good farmers, the roots are pulled and sliced in machines, and then put into troughs or boxes for the sheep to feed from.

The English winters are totally different from ours, being rainy, foggy, and open, with little sun, high bleak winds, and the ground seldom frozen, and then only slightly; and snow rarely lying more than three or four days after falling. Hogs are kept in the barn-yards or small fields adjacent to the out buildings; and in their season, tares, clover, or any green food is cut and brought home to them to feed on; in addition, they have bran from the mills, brewers grains, and occasionally beans. They are also turned into the grain fields after harvesting to glean them, and in the fall and winter, the fattening process is finished with oats, peas, and barley meal. The cows generally run to a pasture, and all the work stock and frequent-

ly the fattening and other animals, are kept up in yards and stables and soiled; the teams returning from the work fields at night, stopping to take loads of fresh cut clover, vetches, or grass for this purpose.

Besides the manure that is made from the farm, large quantities of peat ashes are manufactured in this county; and they import crushed bones, rape dust, guano and other manures, sometimes at the cost of ten to twenty-five dollars per acre. This last outlay per acre is rarely made for manure, and only for particular important improvements. Manure, however, is the English farmer's main dependence to produce good crops, and to obtain it, he is lavish in labor and expense, but in nothing does he more judiciously invest his capital, and from nothing can he look for so sure and profitable a return.

Land lets from five shillings up to five pounds per acre, according to the soil and eligibility of situation. Good average farms command about twenty-five shillings the acre, and the tenant pays the taxes, which run from five to fifteen shillings more, (about ten dollars per acre.) It may be asked how farmers in England can live and pay such enormous rents and taxes—it is easily answered by saying, that all the land they hire is arable, and not as in America one-half or one-fourth wild forest; the great crops they get from a given quantity, and the high prices that they obtain in return for meat, grain, and indeed every thing else they may have for sale. When we were in England, wheat was about two dollars per bushel, and other grain in proportion; while beef, mutton, and pork, commanded from twelve to fourteen cents per pound—so if a tenant hired three hundred acres of land at two guineas per acre, (say ten dollars,) his rent is \$5,000. His labor and other expenses may be \$2,000 more, making \$7,000. He will have at least one hundred acres of wheat, averaging twenty-five bushels per acre, which at two dollars is \$5,000. Then his other grain, meat, wool, dairy products, and growth of different kinds of stock are perhaps nearly as much more, leaving him the handsome profit of \$3,000. Out of this, he has some family expenses to meet, and interest on his capital employed, for no man can be a tenant in England as a rent farmer to any extent without considerable capital. The above calculation is based upon a fair farm well managed, and a good season.

We frequently saw wheat in Berkshire in large fields, that would average thirty to forty bushels per acre, oats sixty to eighty bushels, and other crops in proportion. Other fields of wheat would not be over fifteen or twenty bushels per acre, but when this was the case,

the tenant was considered in the broad road to ruin, and certain it is, owing to the superior care bestowed in the cultivation, lands in Great Britain yield much larger average products than they do in the United States. We neglected to add in the proper place, that labor, clothing, and some other things are about 50 per cent. cheaper in England than in the United States. We may sum up its agriculture by saying, that many things there are worthy of all imitation by us, it is neater, more regular, and more scientific, and notwithstanding the two very adverse seasons of '39 and '40, owing to the indefatigable industry, skill and prudence of the English people, it is in a high state of prosperity. The present year's crop ('41,) was a good average one, though the season was called cold and rainy. The grain grew well and fairly ripened, and the root crops, which are equally if not more important, were never more promising.

The buildings are various, from the immense castellated pile of Windsor, the residence of the Queen, down to the humble hut of clay walls, thatched roof, and earthen or brick floor. But how rural and pretty were many of these last, with trim hedges and gardens around them, and how often have we stopped to gaze with delight at the tidy matron or blooming girl outside, watering the grass plot, trimming up the flowers, or cultivating the fruits and vegetables that always adorned them!

The roads in Berkshire are thoroughly Mc-Adamised, even to the lanes; and the great Western Rail Road passes directly through here from London to Bristol, and is probably the finest in the world. There are several canals here also, which with the slack water navigation of the Thames, create great facilities for travel and transportation.

We found the people wherever we went, friendly and hospitable, and were treated with a kindness and attention there, and, indeed, in all England, that we did not anticipate. The farmers live handsomely, as in our own country, with substantial furniture in the houses, books, engravings, and various knick-knacks floating about—keep their own gigs or pretty spring carts, and a pony chaise for wife and daughters to do their visiting, and take their airings in. They still wear white top boots and drab gaiters a good deal, and the peasantry may be generally seen in frocks, corduroy breeches, gray stockings, and thick, solid hob-nailed boots. They work moderately, and generally have enough to eat and drink, and their clothes are comfortable and appropriate, and some of their cottages absolutely enviable. Occasionally there is partial work for them, and then comes the hated Poor-house, to which they are obliged

to resort. We heard many complaints of bas-tardy and drinking among them, but of these things, the higher ranks would do well to be silent, till they set better examples themselves.

The peasantry are a sturdy race, and some of them would do credit to the roughest bluntness of our backwoodsmen in their speech and manners, while others are somewhat cringing and subservient. Upon the whole they are a free, hearty class, and we took great pleasure in chatting with them on every occasion, and only wished we could transplant about 50,000 of them per annum to our wild, fertile districts in the United States. They would soon get passing rich for them, and become valuable members of the great American family. The women are much out in the fields, hoeing turnips, raking hay, reaping, binding, gleaning, and harvesting the root crops. I liked to see them in haying time: it is clean, light, pretty work, and brought to mind all the poetry of Burns, and the enchanting song-writing of the United Kingdom; and we can assure our readers, that we saw many a "charming, sweet, sonsie lassie" engaged in these rural occupations. They wore neat straw bonnets, and had cloaks and umbrellas to guard against the frequent showers, and to our question as we passed, "Well, girls, this is fine fun, is it not,—the hay harvest?" they blushed and smiled, courtesied and replied, "Yes, your honor," or simply, "Yes, please, when weather's fair." We would very gladly relate many instances of manners and conversations that fell under our observation when abroad, but to avoid the possibility of trespassing in the slightest degree upon private life, we forbear. Perhaps, however, occasional scenes may come in hereafter, when nothing can be risked on this head, or kind hospitality appear to be betrayed.

Markets are held somewhere in the county almost every day in the week, but the largest and most generally attended are those at Newbury and Reading, if we recollect right on Thursdays and Saturdays. Here you will see the farmers in neat, white tops, and drab gaiters, coming in from all quarters in their gigs, spring carts, and on horseback; sturdy peasant men and women on foot with baskets of sundry things in hand, and others with ponies and donkeys, balancing loaded hampers on their backs, while the more wealthy had their quadrupeds harnessed to market wagons, loaded with vegetables, eggs and notions in general, followed up by the huge broad wheeled wagon, to which those of our native country are but cock boats to a frigate, and piled up with sacks of grain about as high as a load of hay. The roads are so smooth and perfect, that immense loads can be drawn upon them, and to this towering ve-

hicle would be attached six large, powerful cart horses, fat as they could walk, and coats as sleek as moles, gaily caparisoned with tassels, top knots and bells, their driver in smart plaited blue frock and breeches, and long pipe stuck into his hat riband by way of ornament, cracking his whip and walking by the side of his team, proud as a turkey cock, and dealing out his orders with as much pomposity and gusto as a militia captain on muster day. Then come droves of pigs, flocks of sheep, cattle, horses, and asses, all bound for their respective stations in the stock and grain markets. Now commences "*high change*," points, breeding, qualities, prices, payments, and all such mighty matters are discussed, and by 2 o'clock, P. M., affairs are pretty well closed.

All then assemble at the different Inns, the more gentlemanly class dining together at a general table. All seated, the chairman takes up a huge carving knife, gives a loud rap on the festive board with the handle as a call to silence, and then with becoming unction, mutters a short grace and all fall to. The dishes are plain and substantial, and amount to three or four kinds well-cooked fish and meats, and then follow plumb pudding and pastry. Wine and spirits are not much drank, as they are very dear in England, but foaming tankards of double distilled strong ale usurp their place in foaming procession. After the cloth is removed, pipes with stems of about a 'cloth-yard' length succeed, and then follow wordy discussions on the day's transactions, crops, stock, rents, tillage, &c. &c.

Column after column of light blue smoke now rises up from each, filling the room with a denseness, quite equal to a genuine English fog. Gradually the eyes of the pertinacious puffers begin to assume a fishy aspect, their cheeks changing with alternate blue and red, seem at last to be bursting with tobacco smoke, florid health, and foaming beer. The busy landlady and her maids are sailing about in every direction, waiting upon customers and serving round the potations, while the landlord more quietly sits at his ease, holding sage talk with all comers and goers. In the tap room the scene is enacted over again in a more humble way, for there sit on long benches, with naked tables before them, small farmers or sturdy peasants, some discussing a dinner of simple bread and cheese, others adding a little cold bacon or lamb to it, while others again are sucking lustily at the beer pots, alternating their "heavy wet," with "light dry" drafts upon the long tobacco pipes. Though never participating in stimulants or opiates of any kind, yet there is a downright comfortable apparent satisfaction in these things, that when occasionally led to look back at them, our sympathies are seized fast hold of,

and we cannot but half envy, for the moment, the animal enjoyment of the stupifying indulgences.

A.

Relative Value of the different Manures.

To show the extreme care with which Europeans husband their manures, we subjoin a list of some articles systematically collected for this purpose, and their relative fertilising properties. We cannot too earnestly inculcate upon our readers the necessity of the strictest attention to this important subject. Manures are the foundation of the farmer's prosperity. He can do nothing without—he can do every thing with them. Their importance has been hitherto undervalued by a large portion of our countrymen, in consequence of their occupying new lands, which, being charged with the undisturbed remains of vegetable matter accumulated through centuries, need little assistance from art to sustain successive crops, sufficiently large to satisfy the occupant. But we have two remarks to apply to persons cultivating such lands: there is comparatively little land, except the richest of the alluvial bottoms, that cannot be made to increase its crops by manure; and a series of crops will soon exhaust even the best, unless it is subject to a periodical renewal of its fertility, by accessions from alluvial deposits furnished by the overflowing of streams.

A strong example of this is shown in the Virginia lands, which at one time were as rich as any on this Continent, but by severe cropping for a long time, many of them have become so much impoverished, as to be comparatively worthless, and in many cases have been absolutely abandoned. In this condition they will probably remain till exhausted Nature is allowed to recruit herself by the decomposition of such fertilising mineral resources as abound in most soils; and the accumulation of fresh vegetable matter has restored her former energies. But in the interim, the land is abandoned and worthless, and the capital invested in it, totally unproductive. This disastrous result may not only be avoided by a careful application of manures produced on the farm when properly stocked, but the original fertility of the soil be gradually augmented. That we do not mistake this case, it is sufficient to quote recent European experiments in confirmation of our opinion, which show that the urate produced from a single adult in one year, affords nitrogen sufficient to produce 800 lbs of wheat, or over 13 bushels! And this with *all the excrementitious matter* abounding on every farmer's premises, if carefully collected and retained to be applied to the proper crops, and at the proper season, would rapidly increase its productive powers, even while undergoing a severe cropping.—

There is no difficulty under ordinary circumstances, in getting *good crops from good land*, and we shall feel it particularly incumbent on us therefore, to provide our readers most liberally with all information relative to manures.

The following articles have been recently analysed by Boussingault and Payen, with reference to their fertilizing principles as manures; and the figures below indicate the number of pounds respectively, which in their ordinary or moist state contain the equivalent of nitrogen to be found in 1000 lbs of farm yard manure.

	lbs.
Woollen rags	22
1 Codfish (damaged, washed and pressed)	23
Feathers	26
Blood, dry, (insoluble)	26
Horn raspings	27
Cow hair	29
Muscular flesh	30
Blood, dry, (soluble)	32
Grass	33
Pigeon dung	48
2 Bones boiled	57
Do. fat, (exposed to air)	64
Do. moist	75
Linseed cake	76
Rape cake	81
3 Belloni's poudrette	103
4 Grains of white lupin	114
5 Cockchafers	127
Blood liquid	140
Urine of the horse	153
Pea straw	223
Buried root of clover	248
Soot from coal	296
Wheat straw, being 1-8 from the upper end including the threshed-out ear	300
Animalized charcoal, (recently prepared with night-soil)	332
Soot from wood	347
Wheat chaff, and carrot tops, each	470
Dung hill drainings	677
Potatoe haulm, and horse dung, each	727
Saw dust, oak	740
Tops of green beet root	800
Saint foin straw	833
Urine of the cow	909
Farm yard manure	1000
Cow dung and oyster shells, each	1250
Oat straw	1428
Saw dust, Acacia	1559
Wheat straw	1660
Barley do	1739

1 Frequent in Roman Catholic countries.

2 It will be seen that "boiled" give more nitrogen than "moist" or "fat bones." This refers to equal weights. With equal measure the result would probably be the reverse.

3 Poudrette is slowly dried and old night soil.

4 These are absolutely grown for manure on the Tuscan Appenines, whence more bulky crops are not easily transported. Gathered when nearly ripe, their seeds contain nearly all the azotized principle of the plant. They are boiled or baked to destroy vegetation.

5 In the south, where these flies abound, they are collected to prevent the damage done to crops by the grub, in such quantities as to render them available for manure.

Saw dust, fir
Rye straw

lbs.
2119
2352

It must not be supposed that this list indicates, under all circumstances, the value of these manures, even with reference alone to their nitrogen. It is only the analysis of each in certain states, and those states vary materially. Still it affords a good general criterion of comparative value, and may now and then be of some use to the farmer under certain circumstances. When his own farm yard dung is deficient, he may be able to make up from other sources within his reach, some substances which, properly managed, will afford a good substitute for the ordinary supply of the farm.

We have noticed in late Nos. of the Philadelphia Cabinet, that there are some large fowls and large white hogs in Pennsylvania. We should be very happy to have a history of all there, and be informed also of the address of the owners, so that in a jaunt we propose taking through the state, we may be able to call and look at them. Nothing will gratify us more than to be the organ of communication in directing public attention to improved animals of all kinds, and we shall esteem them the better for being bred in our own country. All we ask is the thing, and be certain it is what it purports to be.

We wish to purchase for some friends, 100 good Merino ewes, 2 years old, of the largest and finest forms, together with 3 superior bucks—also a few Saxons—also 100 grade South Down ewes from 3-4 up to 31-32, (we prefer the highest cross,) to be delivered in the month of September.

We wish also a few very choice grade Short Horn cows, for family use, that are *first rate milkers*. Also 3 *Ayrshires* and some of their crosses approved good milkers.

Address the editors of this paper, in all cases *post-paid*, with prices for *cash* on delivery.

MODE OF INCREASING THE POTATOE CROP.

An English writer says by carefully removing the buds as they appear on the potatoe vines, the crop of large ones is very much augmented. The theory is plausible, and worthy a fair trial.

SOAK YOUR SEED CORN IN SALTPETRE.—

It destroys the worm, is not relished by crows or squirrels, and yields much more abundantly than when planted without.

PEACH WORM.—L. Physic, of Philadelphia, says a mixture of 1 oz. saltpetre, and 7 oz. salt, applied on the surface of the ground, in contact and around the trunk of a peach tree, 7 years old and upwards, will destroy the worm, prevent the *yellow*s, and add much to the product and quality of the fruit. He also sows the orchard with the same mixture, at the rate of two bushels to the acre.—*Phil. Eve. Post.*

The Protection of Home Industry.

We shall offer our readers no apology for the following brief remarks on a subject that vitally concerns *them*, in connection with each of their fellow-citizens. 'Tis in vain we enrich and prepare our ground—in vain that we carefully select our seeds—in vain we apply a skilful and assiduous tillage—in vain that the all-bounteous Deity sends us propitious seasons, and we are suffered to reap luxuriant harvests; if, through the mal-administration of the government, and the unequal intercourse we have with other nations, the very excess of our blessings is but an additional means to weigh us down and depress still further the productions of the soil. We should be recreant to our trust, did we fail to point out equally the best modes for the successful cultivation of the soil, and the means for securing the full enjoyments of this success. Most eminently is this our duty under the republican government we enjoy, which secures the proud privilege to the *citizens themselves*, either directly or by proxy, of prescribing such an administration of affairs as they may deem essential to their interest and prosperity.

THE NATIONAL CONVENTION assembled for the *Protection of HOME INDUSTRY*, met in this city on the 5th of April, and adjourned, after a sitting of four days. About 400 members were present from a majority of states in the country, out of three times that number appointed, which the busy season of the year and other causes prevented from attending. A mass of facts and statistics relating to the condition of the nation and its business, in the various departments of agriculture, manufactures, and commerce, were elicited, which are well calculated to arouse every patriot throughout this wide-spread Union. No intelligent man, after listening to the reports and debates made on this occasion, could fail to see what has been the cause of our present embarrassments, and the only remedies that can now be applied for removing them. They are clear and palpable as light itself; and "the way-faring man though a fool, need not err therein."

These disastrous times have been brought on us by the combined agency of our local and general governments, and individual operations. The first in these series of errors, was such a reduction in the rate of duties on foreign importations, as to offer an inducement for importations from abroad to an amount far beyond our ability to pay.

The second was the introduction of an extended paper money circulation on a fictitious basis, beyond any thing this or any other country has ever seen since the days of the old "Continental paper."

The third and last great cause which followed as a matter of course from the former, was the neglect of the legitimate occupations of the productive classes, and a too general abandonment by all, of those habits of industry and economy, that are indispensable to a healthy, stable and prosperous condition of a country. The result of the whole matter is, that we are in debt to an enormous extent in Europe, which we are unable at present to pay; we have mutual embarrassment and distrust at home; society, and the occupations of the community are unsettled and disordered; we have yet too many extravagant habits upon us; we are still importing too largely; and we have no outlet for our agricultural productions. Every occupation equally participates in this distress. No; we must except one class, the office holders, state, general and municipal, and we may add, our *conscrip fath-ers* also, the legislators of the country. They are thriving and prosperous, and while labor and the fruits of labor can be had for half its accustomed price, they are flourishing in all the prosperity of fat offices and undiminished salaries. The man of wealth

too, who has his coin securely hoarded, can enjoy his luxuries at half their ordinary cost, and if property be his ambition, a very little of his hoarded stores will buy almost as much as he can grasp. But we are wandering from our subject.

The reports of the Convention embracing almost every subject of American occupation, were clear and luminous, and full of instruction. They were almost invariably based on the relation each bears to the common parent of all, a *well sustained agriculture*. Beginning with the firm and majestic trunk, whose roots reach deep and wide in a luxuriant soil, they followed it up through all its branches to the topmost twig, and showed the expanding fruit, which has drawn almost exclusively from the bounteous fulness of their mother earth.

The great iron business is the *sole product of our soil*. The ore and the fuel are hers alone, and she sustains the labor that shapes and fashions it, almost exclusively on our own productions. So of the various implements and manufactures that are based upon it. Their materials are furnished, and every thing but the *superfluities* of the artisans, if we except the cast steel and a few minor things, from our own productions. 'Tis the same with our woollen and cotton, our silk, hemp, and nearly all our other manufactures. They are furnished directly, and almost exclusively from our soil. It is computed, that to furnish the first, we have 20,000,000 sheep, producing annually over 40,000,000 lbs. of wool, worth \$12,000,000. The agricultural capital invested in this stock and the land and fixtures required for their accommodation, is not less than \$200,000,000!! The fuel and sustenance, the transportation of the materials, and the manufactured articles, all centre in the soil, and go directly into the hands of the farmers; leaving but a commission to the manufacturer, who has received the materials from the agriculturist, and skilfully and laboriously put them into shape for his future convenience and use. The fisheries too, draw their whole outfit from the farmer. Their anchors and chains, and iron fastenings, and cordage and sails, their timber, paints, oil and provisions, are all directly or indirectly derived from the products of the earth.

But in all these various occupations there has been a blight; they are diseased to the core; and without a speedy remedy, these fair products of American growth must wither and die; and if they fall, it needs no prophet to foresee, our agriculture must be involved in the general ruin. Already our ports are groaning under the surplus productions of our agriculture. We are taking it from one market to another, and eagerly asking, Who will buy? We have more than we want at home, with our present organization of employment, and Europe, that has almost drained our last shilling of specie, in exchange for her silks, and wines, and gew-gaws; sagacious Europe steadily persists in excluding from her ports, all the substantial of life we offer her, in payment or exchange for the miserable trash we have so lavishly bought of her. She is too wily to receive her dues from us in the only way we are able to pay. While she is filling every nook and corner of our country with her wares, with a vigilance that never tires, she is rigid in excluding almost every production of ours; save the cotton which is an indispensable element of her prosperity. And even this she will soon provide for her own consumption, and we shall be left without the privilege of furnishing her a single article essential to her wants. The chairman of the committee on agriculture, Hon. Harmer Denny of Pennsylvania, exhibited returns from our exports from 1790 to 1840, from which it appears that *the exports of beef for the last 10 years, was only half what it was for the same period 50 years ago! And this too when our cultivated lands have*

troubled, and our producing population has more than quadrupled! The exportation of pork has somewhat increased, but the aggregate of beef and pork exported is less than three-fourths its average amount half a century since.

Of flour exported to England within the last 20 years, the testimony of several of the heaviest dealers in this city, established the fact, that more than two-thirds of the whole shipments during that period, had been disastrous. The semblance of relief held out to the American producer by the proposed change of the corn laws of England, is unworthy of our notice. The knowing ones in Parliament, scout the idea that it will, under any other circumstances than the starvation of the country, admit the importation of foreign grain to any amount. They persist in adhering to the "sliding scale," which renders the importation of the staff of life no better than a gambler's occupation. Thousands of barrels are still held there in bond, which were sent last year from this port, under the delusive temptations of high prices and low duties, but which, even under the meliorating influence of the proposed law, will result in a loss to the American shipper of one to two dollars per barrel! And whenever the necessities of England compel her to admit foreign grain to avoid starvation at home, the market on the Continent, which is always well supplied, can be reached in 36 hours, and returns made in England to satiety in a week! What chance then has America of furnishing England with bread?—None, none whatever, and the sooner we abandon this delusion the better.

As to our pork market, we could wish we were ignorant of the last and present years' transactions. They are too deeply disastrous to talk of with patience. We cannot state the disheartening losses to their full extent. Suffice it to say, that the farmer who sold his well fed carcasses at 1 1-2 to 2 cts. per lb. last winter in the extreme West, got twice the price they would now bring in any market, after deducting all necessary charges. These are solemn, unvarnished, incontestible facts.

How is it with our shipping interest, our commerce, hitherto the pride and boast of our country? That too is faltering. It has stopped in its glorious career, and other nations are fast gaining on us, even in the poor privilege of bringing their own worthless wares to our already overcharged warehouses. Two hundred vessels are now lying rotting at our wharves, their crews discharged, and with not the slightest prospect of employment. And our merchants, how fare they in this scene of almost unmingled disaster? "Othello's occupation's gone" even with them. They are fairly turned out of their own counting rooms, and 'tis with difficulty some of them could get a porter's birth from their foreign masters. The astounding fact has been shown from Custom House and other documents, that over four-fifths of all the English goods, and eleven-twelfths of all the French and Continental goods sent to this market, are sold by persons owing allegiance to foreign countries, and not naturalized in our own! They will not pay us even the poor compliment of allowing us a commission on their goods; but they import them in their own ships, store them in their own warehouses, and then hold them out to us with one hand, while they grasp our gold in the other; which is instantly sent back to the governments of the old world, to pamper their already bloated luxuries, and still further augment their strength. To such a length has this system proceeded, that the merchants, and the shippers, have at last, as well as the mechanics and manufacturers, come in solid phalanx, to join the farmers of the country in asking for some relief; a relief, that is now equally demanded by every class in the community. And

this brings us to the second division of our subject—the remedy for our grievances.

This is ready to our hands—we have only to will it, and the siren bands of *Free Trade* (free to all the world as regards the privilege of selling their products to us, and equally free in prohibiting ours from finding a market with them,) that have bound us so long in ignominious bondage, will fall, like Samson's cords, from our limbs. There is but one remedy, but thank Heaven, that is potent for good, and is entirely within our reach. It is simply, to lay such a duty on all foreign fabrics that we can produce at home, as will afford ample protection to HOME INDUSTRY. Go to the halls of Congress, and tell them in tones that shall make the deaf to hear, that we will not have AMERICAN LABOR degraded by being placed on a par with the paupers of Europe, who work for 5 to 25 cts. for adults per day; and if possible, even worse than that, the semi-barbarianism of India, at 3 to 10 cts. per day. Tell them, where there is no reciprocity there shall be no intercourse; that is, that intercourse and interchange shall cease at the point where reciprocity and mutual advantage terminates. Give us a "judicious tariff." We ask for no monopoly, but we demand protection. With this talisman once adopted, every vocation would start at once into new life and vigor; every trade would be resuscitated, and every department of industry again filled; and the now crowded granaries of the farmer would be relieved of its surplus, and his pockets replenished by remunerating prices for what is now unsaleable.

We are not disciples of that school that preach monopoly or would foster one interest of the country at the charge or expense of any other. No such petty view influences our visual organs. But we do profess to wish to protect our own countrymen, whether native or adopted, in that reward we think they ought to receive for their persevering and well directed labor. We do profess to wish to sustain that, and lift it high above the degrading condition of European and Heathen toil.

We have been prating of currency, currency, currency, till we have reached that point where we have no currency; where we can have none, till we cease to run in debt beyond our means to pay. Heaven has graciously vouchsafed us laws, whose operations, while most benignant, are for the time being, most loudly deprecated. While we had a currency—that is, a circulating medium, whether gold or silver, or Bank paper, stocks, and state and other bonds, and we had them all, and we can any of us tell how much too good they were in public estimation, while they lasted—we were plunging fearfully deep in debt, "where fathom line could never reach." Now we have next to none, little gold or silver, almost as little good Bank paper, and as to stocks and bonds once in such high repute, we think we shall be excused for not classing them as currency. The country is groaning under repletion from foreign goods; abstinence is the only remedy. Sound legislation, sound sense, and sound habits on the part of this nation, in one word—temperance in business matters, would have saved us from this deep disease of the body politic, and their prompt adoption and unflinching exercise, would soon remove it now: but in the mean time, the absence of all money and all credit by restraining importations, is the only present remedy in operation for restoring the ultimate means of affording both. The agriculturists of this country hold three-fourths of the legislative power and at least an equal proportion of sound intelligence, and sterling worth, and a combination of their influence would carry any measure they chose to sustain; but unfortunately, the cunning and intrigue of a portion of the remaining fourth, defeats the adoption of much of that policy by which alone they can hope for any security.

Till we can have just and proper National legislation on this subject, we must do what we can individually. Foster and protect and encourage your own manufacturers. Every thousand dollars invested in manufacturing, requires the products from ten thousand invested in agriculture to sustain it. Massachusetts annually buys at a *round price*, from the Western farmer, more flour than the total exportation to England of the same article, which we have shown above, is made at a positive loss. Which then is the best nation for the West to trade with, the *English nation* or the *Massachusetts nation*? She gives you a better article for a less price, when she has had *protection* for awhile till she can get fairly into operation with her manufactures, as has been already experienced by her selling a better article of cotton goods now for 8 cts per yard, than was *imported* 30 years ago for *five times* 8 cents. What is true of cotton goods, is also true of many others; and will be of all, if we can have *protection* for awhile. And what is said of Massachusetts may be said of many other states, and your own, perhaps. The *domestic markets* afforded by your own manufacturers are worth all the foreign markets in the world ten times told. Sustain and cherish them; cease to buy from abroad; and with intelligence, economy and industry, the currency will take care of itself. Had we the best in the world at this moment, excessive importation would make it the worst in three years; and starting with the worst now, we predict that adequate protection of our *Home Industry* would make it the best in an equally short period. But we have not room to pursue this subject now, but may recur to other features of it hereafter.

R.

✍ We call the attention of our Western readers to the extensive sale of Short Horn or Durham cattle, advertised in our present number, to be sold in Ohio next month. There are 27 in the catalogue. The cows are celebrated for their milking qualities. Lady Ann has given 32 quarts per day for two months in succession; and most of the others will average 24 quarts per day on grass alone, and when not in milk, will fatten kindly, thus uniting two great essentials of cattle excellence. Such cattle for breed, are worth more than their weight in some Bank paper. For crossing on native cattle, they are invaluable. There is no *corner lot* speculation in buying such.

Mr. Mahard's Berkshires are among the best in the country, including some of our recent importations. A few of these, as also some choice Leicester sheep, are held on private sale.

✍ Some good animal cuts we intended for the present number were not prepared in time. They will appear hereafter.

We have an editorial article on the cultivation of Hemp—also, Kentucky farming, which will appear in part in our next number.

GRAPES MAY BE PRESERVED FRESH, by being suspended in any air tight vessel so as to prevent pressing on each other, or by packing in saw-dust in a close jar and placing it in a dry, cool place.

NOTICES OF NEW WORKS.

"A Muck Manual for Farmers.—By Samuel L. Dana.—It is usual to help the ground with muck, and likewise to recomfort with muck, put to the roots, but to water it with muck water, which is likely to be more forcible, is not practised.—Bacon." Here is an unpretending title and as quaint a motto. Not so, however, with the treatise. We have a most important, *the most important*, subject of a farmer's attention treated in its general principles by an experienced, ingenious, and reflecting mind. Dr. Dana has been long and favourably known to the agricultural public by his ingenious and practical essays on matters essentially connected with their prosperity. This work will lay them under still deeper obligations to the author. There is much of novel theory in this work, which perhaps extended observation may be required to establish and confirm; but there is also enough of well-authenticated facts, to commend it to the careful consideration of every farmer. The theory, too, will be found attractive to the intelligent and inquiring mind, and will well repay investigation. We shall enrich the columns of the *Agriculturist* by some of the more practical quotations from it hereafter. We have been especially gratified in the perusal of this work, to witness the devotion of *American genius*, so generally absorbed as it is by professional or political pursuits, to a subject, though eminently practical in its results, yet combining so much of thorough science and pure intellectuality. The work is for sale at Wiley and Putnam's. Broadway.

We acknowledge, also, from the above gentlemen, the receipt from England, by late arrivals, the London Farmer's Magazine, six numbers of C. W. Johnson's Encyclopædia, and a continuation of J. W. F. Johnston's Lectures on Chemistry and Geology as applied to agriculture.

We must also acknowledge the receipt of valuable papers from the Agricultural Press of this country; and our thanks for the complimentary manner in which our humble efforts have been noticed by the press generally. We esteem this the more highly from a conviction that it has been done from a *growing fondness for the subject*, rather than our own deserts.

"Transactions of the New-Haven Horticultural and N. Haven Co. Agricultural Societies," have been politely forwarded us by Charles Robinson, Esq. We are always gratified to learn the result of these commendable enterprises, and especially so, when as successful as the reports of the above indicate. We hope, ere long, to see similar societies organized in every county in the United States; active, efficient, exciting agents, giving spirit and success to the efforts of the cultivators of the soil, by calling out and rewarding a well-directed competition. We have only room for a single extract:—

"Of the working oxen, who can speak in terms of too much praise? Nearly six hundred were on the ground; and if any other county, or state, or country, claims to have finer or better, where is it? We are ready for a challenge. The splendid teams of one hundred and seventy each, from Bethany and Woodbridge, collected during the storm, proved conclusively the courage of the farmers there, and their admirable taste in the selection, and skill in rearing and training of stock."

Six hundred premium working oxen, shown from a single county, in a most terrific storm, and that scarcely half represented! and this county affording a large proportion of light soil, and sterile mountain!

Farmers of the prolific south and west, when shall we have as good deeds to record of you? Let those who deny the advantages of oxen for farm labor, attend the N. H. Co. fair, the coming autumn, and witness the ploughing of 34 rods of land (nearly one fourth of an acre) by a single team in 36 minutes! 'This is distancing Eclipse and Henry; yet the Committee think there is room for improvement! We infer this was done by a single yoke of oxen, without a driver; but we think there is more room for improvement in the reports of some of the committees than in the ploughing. Pardon us, gentlemen; but you don't give us the particulars above, which we are obliged to conjecture, and we are also in the dark as to the breeds of most of the premium animals, quantities of vegetable products per acre, &c., &c. The mode of raising premium animals and crops ought always to accompany their exhibition, and we can then enforce the precept on the audience with more justice, "Go thou and do likewise." It was in this county the splendid Durham oxen were reared, recently sent to this city by Wm. K. Townsend, Esq.

LADIES' DEPARTMENT.

The Ladies' Department will be added in the subsequent numbers of our work. The flower garden, botany, &c., &c., are as essential for them and their share of the "farm stock," the younglings of the family, as graver matters for the other sex.

Flowers—Their Uses.—Not long since, we had occasion to call on a friend in the country who had retired from the busy throng of the adjoining city, where he had been an active participator in the exciting scenes of its ambitious citizens. Like most others of an ardent temperament and too sanguine expectations, he had been tempted beyond his depth in the recent allurements of the times. He was overwhelmed with the disasters that followed in such rapid and irresistible succession, and with blighted hopes, and sad forebodings of the future, he sat dejected and silent, and buried in the melancholy musings of his own sad spirit. Rather irritatingly repulsed in some topics of consolation I had volunteered to him, I silently withdrew to a retired part of the room, more pained than vexed, that my benevolent intentions had been so rudely repelled; but I deemed it the better philosophy to allow the smouldering fires of discontent to exhaust themselves, rather than by stirring, to kindle them anew. We had not been long sitting thus unsocially, when the sound of merry voices came ringing in our ears, and a moment after in burst a trio, the avant couriers of the boisterous group. The first to reach our melancholy Jacques, were the old family dogs, a large Newfoundland, beating his shaggy sides with his tail, and pushing his intelligent nose into his master's lap, and a favorite little Terrier bounding all over the room with joy; close behind them, and only in their rear, because he had but two legs to their four, came little Ned, a flourishing youngster, of nearly four, whose cheeks, beaming with health, and eyes radiant with delight, were at once unceremoniously thrust into the face of the unhappy man, and claiming a kiss, exclaimed, holding up at the same moment one hand full of wild flowers, the first of the season, and the other grasping divers evergreens, twigs, and switches, for the better discipline of his hobby horse, "See, papa, what I have!"

Before this brief address was fairly out of his mouth, France, a swarthy little Gaul, the babies' maid, came patting in, and sans ceremonie deposited her totting charge in the father's lap, a rosy little budget of femality of scarcely 18 moons, who smiling

ing her delight, muttered her tiny bits of sentiment as she held a little bouquet of already half demolished Spring beauties, up to his face, soliciting his admiration. Last followed the more sedate, but scarcely less joyous wife and mother, and with a face flushed with her healthful walk, and the excitement of her happy ramble in the balmy breath of spring, she triumphantly held up her glittering prizes of "earth's freshest, fairest flowers." "Only see," says she, "the variety I have found together, and so early too;" and drawing a seat close by my friend, she spread the radiant things on her lap, and culling the different species, she exhibited their various characters.

"See this beautiful Hepatica, with its trilobed leaves and quintuple petals most delicately shaded, with every variety of hue, from the purest white, through every shade of pink, and blue, and purple; and frequently on the same cluster. Here is the delicate Anemone, two varieties, both varying from a perfect white to the deepest peach blossom; here is the Viola rotundifolia, and here are the little yellow, and the large blue, Violet. Here is the firm, glossy, mottled leaf of the Erythraea, or Adder's tongue, and the syphon stem, with the yellow bud, that will soon expand into the beautiful, yellow, lily shaped flower, with its modestly curled petals; and here the Sanguinalia, or Blood-root, with its delicate blossoms of snow, far-famed for its medicinal root; here the wind Anemone, and here the Zephyr flower; and here the little wild Star of Bethlehem, just peeping from the ground; and here is the gaudy Cowslip, more useful in its leaves, which furnishes a most delicate esculent for the table. Smell this exquisite fragrance; 'tis the modest Epigaea repens, or trailing Arbutus, whose little vines, after patient search among the withered autumnal leaves, our little Edward brought me. These are the Trilliums both red and white, not yet expanded; and here the bud of the Mandrake, and here the silver tassels of the Birch, the Alder, two kinds of Swamp-Willow, and here the delicate tiny flowers of the Ash and Maple."

"And here," interrupting her voluble recital, and relaxing the misanthropic scowl he had vainly endeavored to retain, and giving full vent to his softened feelings, extending his arm, and drawing her to himself, "Here is Heaven's last best gift, and worth all the world besides; and see what lovely flowers it bears," catching up and half-smothering with kisses his little Bess, that was quietly enjoying the display of flowers, occasionally throwing one to her favorite tabby, that was just then purring round her feet. "I was just trying to make myself believe I was the unhappiest man the wide world contains; because I had lost much I was determined to persuade myself that I had lost all. But here I am surrounded by a wilderness of sweets and comforts, not half of which I can fully enjoy; and,"—he was going on with his confessions, but seeing his fortress of misanthropy had been taken by storm, and fearing my bachelor feelings would be carried away by his conjugal rhapsodies, I quietly opened the latch beside me, and slipped out of the door to help the little urchin, who had thrown down his late highly prized acquisitions, and was trying to catch a pet rabbit that was amusing him by just keeping out of his reach. I could not but recal, in connexion with my friend, the incident of Mungo Park when ready to perish, destitute and abandoned, he had thrown himself on the blistering sands of Africa, determined to yield himself unresistingly to his fate, but turning, he descried a little flower sending up its sweet perfume and displaying its beautiful petals on the arid waste; surely, thought he, if God cares for this fragile flower, so lone and friendless, he will provide for me; and his subsequent exertions brought him within aid that rescued him from destruction. *Flowers are indeed God's smiles, when they*

can thus take the soul gently out of the depths of despair, and lift it high above the vexatious disappointments of this world. They purify the heart they gladden, and while they make the man happier, they make him better than he was before. R.

BOTANY.

Botany, in the most confined sense of the term, is the science which teaches us the arrangement of the members of the vegetable kingdom in a certain order or system, by which we are enabled to ascertain the name of any individual plant with facility and precision. Such arrangement is only to be considered as useful in proportion as it facilitates the acquirement of a knowledge of their economical and medicinal qualities, which cannot be perfectly ascertained without an acquaintance with vegetable physiology, the parts of plants, their functions, and uses. Botany, in its most comprehensive form, teaches us the names, arrangement, parts, functions, qualities, and uses of plants.

A few facts will demonstrate that it is impossible to deny that vegetables possess some degree of sensation. The Venus's fly trap (*Dionaea muscipula*) has jointed appendages to the leaves, which are furnished on their edges with a row of strong prickles. Flies, attracted by honey, which is secreted in glands on their surface, venture to alight upon them; no sooner do their legs touch these parts than the sides of the leaves spring up, and, locking their rows of prickles together, squeeze the insects to death. The well known sensitive plant (*Mimosa sensitiva* and *pudica*) shrink from the slightest touch. *Oxalis sensitiva* and *Smithia sensitiva* are similarly irritable; as also are the stamens of the flower of the barberry. One of this tribe (*Hedysarum gyrans*) has a spontaneous motion—its leaves are frequently moving in various directions without order or co-operation. When an insect inserts its proboscis between the converging anthers of a kind of dog's bane (*Apocynum androsaemifolium*), they close with a power usually sufficient to detain the intruder until his death. If from these, and many other considerations, we conclude that plants are endowed with a certain degree of sensation, or at least of irritability, we can pursue that path of the science no further. Such are the results of life; what constitutes the living principle no human eye can discover.

We gaze on a rose as it waves in the plenitude of its vigour, admire the tints of its petals, the verdure of its foliage, the gracefulness of its form, the delicacy of its fragrance. We may come on the morrow, and it has been blasted—those petals are scattered on the borders—those leaves are withered and sapless—and scarcely a vestige of its loveliness remains.—Wherefore is this change? The same components remain—the same food was ready for its nourishment; but some invisible governing principle—some unknown agent—has silently departed, without one vacancy to point out where it had resided, but a total ruin, to show that it had pervaded the whole. Let a few more hours pass away, when the air, and moisture, and heat, external agents which were subservient to its welfare, now concur in completing its destruction—it is partly dissipated in pestilential exhalations, partly reduced to a few earthy and saline particles. Life, whilst it continued, prevented this ruin; but still, like its Great Author, "no one hath seen it at any time."

Distinction between the vegetable and animal kingdom.—The definition of a plant to a superficial observer may appear easy; but those who have studied natural history are aware of the difficulty of drawing a just line of distinc-

tion between the animal and vegetable kingdoms. It is easy to distinguish a horse, or even a worm, from a rose tree or a fungus; but to distinguish a sensitive plant, &c. by descriptive marks from many zoophytes has hitherto baffled the acutest botanists. Many plants are gifted with spontaneous motion; whilst many animals, as the corallines, are devoid of locomotion; so that neither of these qualities avails us in distinguishing the two kingdoms. In short, whilst the zoophytes, most of which take root, grow up into stems, and multiply by buds and slips, must still be considered as animals, no one can correctly define how plants differ from them. It is, however, fortunate, that the student is seldom placed in a situation where these nice distinctions are to be made. Where specimens are to be examined which admit of the doubt whether they belong to the lower animals or to the vegetable tribes, chemistry may be called to our aid; if, when burnt, they emit an ammoniacal smell resembling that of feathers, similarly treated, we need not hesitate to consider them as animal products; if that of burning wood, they are fit objects for our botanical researches.

BLUE-BELLS. (*Scilla nutans*.)—A common name given to a bulbous-rooted plant of the hyacinth kind, frequently met with in woods and other places. Its bulb is globular, white, and coated; its leaves linear, channelled, shining, and drooping in their upper half; the flowers form a cluster on an upright stalk, drooping in the upper half; they are blue, pendulous, nearly an inch long, and scented. The bulb is acrid, but loses its acrimony in drying, in which state it answers as a substitute for gum-arabic in the art of dyeing, by being simply dried and powdered.

Johnson's Enc.

Domestic Silk Raising—No. 2.

To the Editors of the American Agriculturist:

GENT.—Feeling a deep interest in the prosperity of our country, and alarmed with existing and threatened evils, I availed myself of the opportunity presented by the "American Agriculturist," to express my views as to the cause of many of these evils, and the most likely means to check them. One cause I believed to have been, a relaxation of moral instruction, unreasonable indulgence, and early habits of idleness; in short, a general abuse of the blessings of Providence; and the best corrective would be employment, with a reasonable prospect of acquiring a respectable living. I therefore recommended instruction in the mechanic arts, and a good knowledge of farming in all its branches. I gave the preference to farming partly, perhaps, from having once been engaged in that business, and found it very agreeable, and reasonably profitable. I have however, always considered a well informed farmer as one of the most independent, happy and respectable members of society.

In the article I have alluded to, and inserted in your first number, I promised to communicate some improvement which I had made, in making butter, the culture of silk, &c.; the last of which, although

of no very great importance in itself, yet viewed in connection with the business of which it forms a part, it is infinitely so, as I consider the culture of silk a business which may be made of more importance to this country, than any ever introduced into it; not merely as respects the general benefit, but particularly so to the industrious cultivator of the soil, from the most wealthy and independent farmer down to the man who owns but three acres of land. And it possesses one recommendation of which no other business can boast. It furnishes employment for those classes of society whose time is now useless—females and old people of both sexes, and children—who would do three-fourths of the labor in a business which would, in a short time, save millions of money to our country, and which, however great, would be hardly equal to the happy moral influence that the habits of industry would have on our youth.

That the soil and climate would be favorable to the culture, I have not a doubt, judging in part from my own experience. About ten or twelve years since, I saw a short treatise on the culture of silk, and believing it might be made useful to a class of society which were almost suffering for want of employment, and having a few white mulberry trees in my garden which came there by accident, I succeeded in procuring some eggs, through the influence of a friend, which coming too early for use, I put in a small tin box and sent to the cellar, where they remained until one warm day in June. The box was then covered with small black worms, and never having seen one, I did not suspect they were the silk worm until on opening the box, I found the eggs mostly empty. I succeeded however, in saving about one hundred and fifty, which, on being put upon some leaves, ate most ravenously. They grew to a good size and gave me no trouble, until ready to wind their cocoons, when they were disposed to ramble, notwithstanding I had furnished every accommodation directed in my book, green bushes and dry. But they ran from them all, until I cut some thrifty sprouts from a Lombardy poplar, with fine large leaves, and had them suspended over their tray, the extreme end touching the bottom of the tray.—They appeared at once to be attracted by the odour, and began to go up; the leaves wilting, formed little funnels in which they soon went to work, and on taking them down, there were several branches where almost every leaf contained a cocoon, of which I had 145, having lost but three or four. I selected twenty for eggs. The remainder I wound, with the assistance of an old lady formerly of Mansfield, Conn., when I demonstrated a fact which I had doubted, that many of the cocoons would produce more than ten knots, on a reel measuring 6 feet 2 inches round, and forty threads to a knot. The cocoons were of a delicate straw colour, except eight or ten of a deep orange, one of which I put into the water with the others, and the moment it broke was joined on again, so that not a thread was wanting, and it run to ten knots and about ten threads. I am more particular in naming this, that the yield may be compared with that of the silk producing countries.

I made about eighty skeins of silk. Twenty-four of them I gave to a Benevolent Society, which brought them at a Fair 24 shillings. Most of the eggs I distributed among some of my friends, requesting them to give them to those who would be most likely to profit by them. I believe, however, that very little was done with them. As I commenced the business as mere matter of experiment, more for the benefit of others than myself, I gave it up after raising; the second year, a few hundred with the same success as the first,—fully believing that it would be commenced and carried on with the success at some future day.

OCTOGENARIA.

CORN BREAD OR PUDDING.—Stir up one quart of Indian meal with milk, add two beaten eggs and a table spoonful of melted butter, pour the batter into a bakepan, and slowly bake either with coals on the lid, and sitting on them, or hung over the fire. This is a nice process, and upon the baking greatly depends the flavour of the bread. Eaten warm with butter, we have found it one of the most delicious kinds of bread we ever tasted.

An effectual remedy for BURNS AND SCALDS however extensive, if immediately applied. From a physician of Philadelphia, originally published in the U. S. Gazette.

Take soot from a chimney where wood is burned, rub it fine and mix one part soot to three parts of hog's lard, or any kind of fresh grease that is not salted, spread this on linen or muslin for more perfect adaptation. In very extensive burns the cloth should be torn into strips. No other application is required until the patient is well, except a repetition of this.

ORIGINAL CORRESPONDENCE.

For the American Agriculturist.

The Connecticut Valley.

SCENERY, CATTLE, SHEEP, FARMING, ETC.

Black-Rock, March, 1842.

To one who admires charming scenery, a careful cultivation of the soil, and the enjoyment of a great degree of human comfort with moderate means, no region can be more interesting than that bordering the Connecticut river. The traveller, taking the stage coach at Hartford and crossing the noble stream in front of the city, passes into the fine old town of East Hartford, and as he rides for miles under the shadow of those magnificent old elms which dignify the dwellings and streets, cannot but imbibe a most profound respect for the hardy industry and homely virtues of the ancient dwellers in that pleasant land; and also admire the good taste of the present occupants who so gratefully preserve these precious relics. Throughout East Windsor, in nearly its whole length along the river, the same beautiful street continues, each side highly cultivated and dotted with comfortable farm houses; and occasionally a dwelling of modern erection, and of considerable architectural pretensions. These, with the neat and tasteful churches standing in every hamlet and village, give an air of cheerfulness and beauty to the scene not often surpassed.

The cultivation of the valley is of the best in New-England. The broad and fertile bottoms of the Connecticut are heavily cropped with grass, Indian corn, and the smaller grains; while the light and comparatively poor soils of the uplands, afford either pasturage, orchards,

or an occasional crop of rye, buckwheat, or oats. In the vicinity of Warehouse Point on the river in East Windsor, large quantities of tobacco are grown of late years. Several extensive distilleries are located at that place, and the manure obtained from the piggeries attached to them, is found to be exceedingly favorable to its growth. Its cultivation, thus far, is successful and the crop profitable.

In Enfield and Long Meadow, cattle are fattened to some extent. Much hay is grown both for farm uses and exportation, and the farmers live in easy circumstances. A few miles above the latter place is Springfield, an ancient yet thriving and beautiful town, and now by the construction of the Western Rail Road connecting Boston with Albany, the seat of a growing commercial business. The fine, rich farming town of West Springfield, whose broad river bottoms stretch over a great extent, lies on the opposite side of the Connecticut, and is connected to the eastern by a bridge; and probably no town in America has higher advantages in a productive agriculture than this. Its beautiful meadows—its arable upland—its productive orchards, and comfortable farm houses, many of considerable elegance, indicate great agricultural prosperity, and the enjoyment of rural ease and opulence. Farms here are worth from one to two hundred dollars per acre, depending upon their cultivation, improvements, and locality. Wheat is but little grown; corn, grass, and grazing being the principal occupations of the farmers. Throughout the entire Connecticut Valley many flocks of valuable sheep are kept, which in the summer are driven a few miles back to the neighboring hills to pasture, and in the autumn are brought in to winter on the home farms of the proprietors in the valley. These are principally of the Merino and Saxony varieties, and are kept chiefly for their wool, here a considerable source of income. Their influence on the "home lots" and meadows, in thus consuming the summer crop, and adding annually to their production, may be duly estimated. The practice is essentially a good one, and has proved eminently beneficial. Here are meadows or mowing grounds which have been in grass constantly for more than a hundred years, and by occasional top dressing they remain in excellent condition, and the grass and hay are considered sweeter and more nutritious than those newly laid down. Wherever this practice is pursued and the lands properly treated, the result is successful. I here saw a capital Ayreshire bull, the property of the Hampshire Agricultural Society. His stock is already considerably scattered over the country, and is generally approved by discriminating farmers who have reared it. I have little doubt

but this stock is derived from a cross of the improved Short Horn upon the native Scotch; and that by improving the fortunate admixture of these bloods in the lowlands of Scotland, this race has become now well established as a valuable stock for that country. That, with proper care and good breeding, they may greatly improve the neat stock of New-England, I have little doubt, as their compact and hardy forms, and evident milking properties seem well adapted to the short, yet nutritious pastures and the somewhat rigorous climate of those States.

At the parish of Chicopee, five miles above Springfield, I stopped to see the farm of the late Col. Abel Chapin, now occupied by two of his sons, and for thirty years past famous for producing the finest and largest fat oxen in the state. One of the brothers Chapin, whom I found at home, shewed me five noble animals, bred on the farm which they were grazing, of the several ages of five, four, and three years. They were certainly the finest bullocks I had lately seen, and three of them, a five, four, and three years old, were the best and largest steers of their age, that I recollect ever to have looked upon. The two oldest were weighed a few days previous, and swung a trifle over 4800 pounds, being 2400 each; and they had eaten, as I was told, but little meal, grain, or roots. The other, three years old, would, as well as I could judge, weigh 1800 pounds as he stood. These three animals were about three-fourths Short Horn blood, being sired by thorough-bred bulls; and their dam, for they were all of one cow, was of native stock principally, with a remote cross of Devon and Hereford blood in her veins. The other two bullocks were deep red in color, partly of Hereford with perhaps a slight dash of Devon blood, upon a native stock and a trifle of Short Horn; for on examination I find, that nearly all the superior animals in New-England, although claiming in many instances to be principally, or altogether of native origin, are more or less crossed with foreign blood, as the Massachusetts Agricultural Society, together with several public spirited individuals, have, for twenty-five years past, distributed a considerable number of valuable foreign cattle throughout the state, the influence of which can be seen in the breed of almost every enterprising farmer. These animals of the Messrs. Chapins, are all to be fed as long as they continue to thrive rapidly, or until they are about seven years old, when some of them will weigh alive near 4,000 pounds.

As this farm had long been celebrated for its extraordinary bullocks, I was anxious to ascertain whether these which I now saw were equal to, or superior to those which the late Col. Chapin had usually reared and fattened. I was

answered, that these were much finer boned, and better shaped than the old stock, which were mostly of native blood, coarser, and throwing off more offal; and although large and bulky, they were grosser feeders, did not lay on flesh so evenly, and told less profitably in the butchers' hands than these—and finally, that they would drive a cow ten miles and pay five dollars for the services of a thorough-bred Short Horn bull, rather than use a common one for nothing.

This was the result of *their* experience—a judgment founded on a long course of practice in the Connecticut Valley. These gentlemen are rearing some valuable heifers of the Short Horn, or Durham cross with their native cross, and assert their determination to adhere to that stock to a great extent hereafter. The brother with whom I conversed had travelled extensively in England, and had critically observed much of the best stock in that country. His conviction of the utility of raising the character of our domestic cattle in this country by foreign crosses is decided.

A HERD OF SHORT HORNS.—From Chicopee, I proceeded to South Hadley Falls, where I stopped to see the valuable Short Horn stock of Messrs. Collins & Lathrops. They number some five and twenty head now on the farm, of the best blood, comprising crosses of some of the earliest New-England importations. They thrive well on the farm where they are kept, the soil being a strong clayey loam, although on hill land, and very friendly to the production of grass. Most of the cows in this herd are valuable milkers, and they generally possess the high qualities of excellence identified with this beautiful race of animals. In the summer of 1840, the Messrs. Lathrop took three of their best heifers to the neighborhood of Philadelphia for the purpose of crossing their progeny with a fine imported bull, purchased by Mr. Cope, of Thomas Bates, Esq. of Kirkleavington in Yorkshire, England. The produce were three bulls and one heifer calf, (two of them being twins,) of superior excellence, as they appeared to my eyes, and well repaid the expense of so laborious an enterprise. I learned that these animals are fast gaining in the estimation of even the New-England farmers, who have been altogether slow in acknowledging their superiority to their native stock, and that they find ready sale for all they have to spare. These facts are gratifying to the lovers of agricultural improvement. The Messrs. Lathrop are adding new buildings on their farm for the accommodation of their stock, and when their present improvements are completed, they will have one of the neatest and most valuable farms in this vicinity.

I ought, perhaps, to observe that I was ac-

companied in this jaunt from Springfield by Mr. Horatio Sargent of that town, who drove me up after a beautiful, spirited little horse of the "Morgan breed," so highly valued in New-England, and which originated in Vermont. Mr. S. is a great judge of horse flesh, and among the great number which, for a series of years, have passed through his hands, he is more partial to these for business purposes than any other. They are compact and graceful in their figure, of great speed and endurance, and uniformly, when well trained, make extraordinary travellers.

ROADS.—As I passed on towards Northampton, I was struck with the public spirit of these indomitable Yankees, in witnessing the great expense of constructing their ordinary highways, which they had in several instances done to avoid a sharp hill, or to cut off an extra mile of travel. Nowhere in America are so good common roads found, probably, as in Massachusetts. They render a great facility to the farming interest, and are an indispensable convenience to their comfort and prosperity in any country. Would that the people of many more fertile districts of the United States would copy the excellent habits of these people in that particular; and although their heavy loams and stiff clays may refuse to afford them the good roads of the sandier soil of New-England, yet a decent skill and a proper application of labor will abundantly help their present condition. On no one subject of agricultural convenience does our country require a greater reform than in this of roads.

NORTHAMPTON.—Emerging through the gap enclosed by the two mountains, the broad and magnificent basin in which is located the most beautiful of all country towns, Northampton, Hatfield and old Hadley, spread out like a beautiful picture before me. I entered this upper valley by the pretty hamlet of Hockanum, and crossed the river on the ice. A ride of two miles across the fertile bottoms, or intervals as they are here called, brought me to Northampton, the termination for the present of my little journey up the valley. These bottoms are almost annually overflowed by the freshets of the river, which leave a rich deposit of fertilizing matter. They are unfenced, and although belonging to numerous proprietors, and in parcels of five, to two or three hundred acres each, are distinctly separated by stakes, furrows, and other recognized lines of division. The different fields are cultivated in grass, where the heaviest crops of hay are gathered, yielding two, and in some instances three tons to the acre. Indian corn, oats, barley, rye, broom corn, tobacco, and other crops are cultivated in the highest perfection, extending over several thousand acres,

without interference by the several owners, who reside in the town or its vicinity. In the month of October, on a given day, for this is all regulated by law in general town meeting, the gates enclosing this immense ground are thrown open, and each proprietor turns in his cattle, sheep, and horses, as the case may be, according to his number of acres, and the autumn herbage is eaten off. Before the winter sets in every thing available is taken from the soil and it lies open, awaiting again the spring freshet, or the more sure and pains-taking supply of manure from the farm yard. I confess that this charming spectacle of primitive and peaceful cultivation reminded me strongly of the Scriptural scenes of rural life, and spoke convincingly of the good order and strict regard for individual rights which prevail among these people. Riding out, as I afterwards did, with my excellent and estimable friend H., at whose hospitable dwelling I was for the time domiciliated, and looking abroad from the brow of Round-hill, as sweet a spot as the world can boast, upon the quiet and beautiful valley before me, hemmed in by picturesque mountains, I no longer wondered at the hardihood and perseverance which the pioneers, who early sought that valley, through every privation and suffering, had evinced in maintaining its possession; nor that it had produced the long line of illustrious men whose shining virtues and fervent patriotism have pre-eminently distinguished its character. My imagination could distinctly trace in their lives and examples, the results of the rigid honesty and high-souled daring of their early ancestors. A considerable portion of the people are farmers, although the village, being the seat of justice for the large and wealthy county of Hampshire, is a place of considerable trade, and the residence of gentlemen of leisure. Their dwellings are situated on a few acres of "home lot," with the needful appliances of easy rural life attached. Their farms lie partly on the adjacent hills, or plains, and in the river bottoms, which they manage with skill and economy. Their agriculture is usually prosperous, and they are, almost without an exception, in comfortable circumstances and "good livers;" while not a few of them are rich, holding their hundreds of acres, and thousands in productive investments. The broad and lofty elms shade the streets in prodigious numbers, and give an air of opulence and repose to the scenery that can be nowhere surpassed. Visiting the farm of the Hon. Isaac C. Bates hard by, I saw a superior flock of Saxony sheep numbering several hundreds, which were in excellent condition. I saw also some fine crosses of the Devon, and the Hereford cattle with the native breed, in the cows, and other neat stock of the farm; and

young Mr. B., who manages the farm, assured me that, contrary to what is generally supposed of these breeds, they prove excellent milkers. As I have often in my rambles met with instances of this sort, which completely put at fault the commonly entertained opinions in regard to these two kinds of animals for dairy or milking properties, I incline to the opinion that the change of country or location affects them in this quality, or that they partake altogether of this excellence from their native blood, or that the standard of comparison in England, where these animals originate and derive their reputation, is much higher than with us. This subject requires investigation. The specimens which I saw were certainly superior in appearance, and a manifest improvement over the common cattle, although possessing but one-half or even less of the foreign blood. Theodore Strong, Esq. has also a large flock of Saxony sheep, which he has bred for many years, and which I saw at his farm. Although the wool bears a tolerable price, and the sheep yields a good fleece in proportion to its size and consumption of food, yet I doubt if our woollen manufacturers can afford to pay the additional price that it *should* command over the ordinary Merino. Yet as these gentlemen and many others are content to grow that quality of wool at the prices obtained, they should be deemed good authority on the subject. L. F. A.

To be continued.

GENT:—The following preparation will effectually exterminate all caterpillars, snails, bugs, beetles, earth fleas, leaf lice, ants and other insects on fields, trees, bushes, and hedges.

Take diluted Pyroligneous acid, 1 gallon; white oak bark, 1 lb; urine, half gallon; garlic, half lb. After soaking the oak bark and garlic for two days in the acid and urine, strain them off and sprinkle once a week or oftener, the trees infected with insects, or the pea, cabbage, &c. and they will be preserved for the season.

This fluid has proved very successful in the experiments made by

DR. LEWIS FEUCHTWANGER.

New-York, April 20, 1842.

MR. SOLOMON HOMER, of Brimfield, Mass. writes us, that "he has just killed five pigs, of the following dressed weights, viz: 506, 492, 457, 407, and 392 pounds. They are the cross of the Berkshire on the native breed, and the four first were about seventeen months old, the last, a sow, two years and four months old, taken from her litter of pigs but two months before, when quite thin."

The above are respectable weights for older animals.

On the comparative Feeding Properties of Mangold-Wurzel and Swedish Turnips.

BY EARL SPENCER.

MY DEAR SIR,—You expressed a wish that I should again publish the results of an experiment which I made fifteen or sixteen years ago on the comparative feeding properties of Swedish turnips and mangold-wurzel. It was published in the "Farmer's Journal" of that day, but I believe it is now very little if at all remembered; and I agree with you in thinking that it may be more interesting now, when men's minds are more turned to this sort of investigations.

The mode of ascertaining the nutritious properties of different kinds of vegetable food by chemical analysis, which was adopted by Sinclair and other scientific men, gives a reasonable probability of their relative value; but we know so little of the processes of nature in converting food into the flesh of the animal that consumes it, that this mode has never appeared to me quite satisfactory. Although, therefore, I believed that mangold-wurzel contained more saccharine matter than Swedish turnips, and ought consequently to be the more nourishing root of the two, I determined to try practically whether an ox fed upon mangold-wurzel increased in weight more than one fed upon Swedish turnips, in proportion to the quantity of each consumed. In order to have rendered my experiment perfectly accurate, I ought to have ascertained the weight of hay consumed by each beast during the progress of the trial, but I did not do this, although I am pretty confident that the quantity consumed by each was nearly the same. I selected two steers, tolerably and at least equally well bred: No. 1 calved March 29, 1823, and No. 2 calved May 6 of the same year; and on the 24th of December, 1825, I put No. 1 to Swedish turnips, and No. 2 to mangold-wurzel. I ascertained their weight by measurement, and both of them measured the same, viz. 4 ft. 10 in. in length by 6 ft. 5 in. in girth, making them to weigh 668 lbs. each. On the 23d of January, No. 1 had consumed 1,624 lbs. of Swedish turnips, and measured 4 ft. 10 in. in length by 6 ft. 7 in. in girth, making him to weigh 703 lbs. and to have increased in weight 35 lbs., or at the rate of 48½ lbs. for every ton of Swedish turnips consumed. No. 2 had consumed 1,848 lbs. of mangold-wurzel, and measured 4 ft. 10 in. in length by 6 ft. 8 in. in girth, making him to weigh 721 lbs., and to have increased in weight 53 lbs., or at the rate of 65½ lbs. for every ton of mangold-wurzel consumed.

This difference, however, might have arisen from No. 2 having a greater propensity to feed than No. 1; I therefore now put No. 1 to

mangold-wurzel, and No. 2 to Swedish turnips. On the 20th of February, No. 1 had consumed 1,884 lbs. of mangold-wurzel, and measured 4 ft. 11 in. in length by 6 ft. 8 in. in girth, making him to weigh 734 lbs., and to have increased in weight this month 31 lbs., or at the rate of 36½ lbs. for every ton of mangold-wurzel consumed. No. 2 had consumed 1,880 lbs. of Swedish turnips, and measured 4 ft. 11 in. in length by 6 ft. 8 in. in girth, making him to weigh also 734 lbs., and to have increased in weight during this month 13 lbs., or at the rate of 15½ lbs. for every ton of Swedish turnips consumed. I then put both to mangold-wurzel, and divided the food equally between them. On the 19th of March, they had each consumed 1,792 lbs. of mangold-wurzel; No. 1 measured 5 ft. in length by 6 ft. 10 in. in girth, making him to weigh 784 lbs., and to have increased in weight 50 lbs.; No. 2 measured 5 ft. in length by 6 ft. 9 in. in girth, making him to weigh 765 lbs., and to have increased in weight 31 lbs.

It would appear, therefore, as if the propensity to feed of No. 1 was greater than that of No. 2 in the proportion of 50 to 31; but, notwithstanding this, in the first month, when No. 1 was upon Swedish turnips, and No. 2 upon mangold-wurzel, No. 2 beat No. 1 in the proportion above stated of 65½ to 48½. It appears as if there could be no great inaccuracy in estimating the relative weight of the animals, as soon after the experiment was concluded I sold No. 1 to a butcher in the country for 24*l*. 3*s*., and No. 2 at Smithfield for 24*l*.

It will be for practical men to decide upon the value of this trial; what appears to me to be the most conclusive part of it is, that No. 2, who had during the first month, when he was feeding upon mangold-wurzel, increased in girth 3 in., in the next month, when his food was changed to Swedish turnips, did not increase in girth at all, and when in the third month he was feeding again upon mangold-wurzel he again began to increase in girth, because it is very well known that, if an animal is changed from more to less nutritious food, the probable consequence will be that his growth will be stopped. The result appeared to me so decisive, that I have not tried the experiment with the same accuracy since; but I did try the following year the feeding a cow alternately on Swedish turnips and mangold-wurzel, and though I have not by me the details of the trial, I remember that the result confirmed the experiment of the previous year.

Believe me, my dear Sir,

Yours most truly,

SPENCER.

Philip Pusey, Esq.

On the Cultivation of Mangold-Wurzel.

BY WILLIAM MILES, M. P.

DEAR PUSEY,—Notwithstanding the favorable result of Lord Spencer's experiment with mangold-wurzel, the consideration will naturally suggest itself to the mind of the farmer previously to his adopting the cultivation of this root, whether, although the mangold-wurzel may bring on his cattle faster and better than the Swede turnip, it is not more difficult of culture, more tender in its habits, and less productive in bulk per acre than the Swedish turnip.

I have grown the common red sort for six, the sugar-beet for four, and the orange-globe for three years; these kinds have regularly come into course with Swedes upon light land; the product has always been equal, in most cases far heavier. The Swede turnip has enemies innumerable; I have never observed the mangold-wurzel attacked either by fly, slug, or wireworm. Equally a cleansing crop with the Swede, it stores better, and lasts good for a longer period. In the summer of this year I was using sugar-beet with the stall-fed cattle, which cut perfectly good and crisp in August. The mode of culture I adopt up to depositing the seed in the ground is the same as that adopted in Northumberland for ridging the Swede; great care, however, must be taken that the seed of the mangold-wurzel is not buried too deep, or it will not vegetate. Dibbling, as you never can ensure an equal depth, does not answer; nor does the seed drill well, if properly prepared by steeping, which I should recommend, for at least twenty-four hours before planting. To ensure, therefore, a proper depth, I have been in the habit of using an iron wheel, round the outer circumference of which, 18 inches apart, iron points project, broad at the base and tapering towards the point, about 2½ inches long; this is wheeled upon the top of the ridge, the man walking in the furrow, and thus holes are formed which can never run into the excess of too great depth, and into which the seeds are deposited by women and boys following the wheel, and generally covering the seed by drawing the foot as they advance at right angles with the ridge over the holes; the roller follows, and thus the sowing terminates. One man with the wheel will keep six persons well employed in depositing the seed after him. This system was recommended me by my friend Mr. Webb Hall, and since I have adopted it my crop has never failed.

The after culture to the storing is similar to that of the Swede; great care, however, should be taken in never permitting two plants to grow in the same spot, which will be the case frequently, should only one capsule even be de-

posited in each hole, as every capsule contains many seeds. Should the tops remain uncut, the plant will stand a considerable degree of frost; it should, however, be stored early in November; the best and cheapest method is to build it up against some high wall contiguous to your beast-sheds, not more than 7 or 8 feet deep, carried up square to a certain height, and then tapering in a roof to the top of the wall; protect the sides with thatched hurdles, leaving an interval between the roots and the hurdles, which fill up with dry stubble, cover the roof with about a foot of the same, and then thatch it, so as to conduct all moisture well over the hurdles placed as a protection to the sides. In pulling the plants care should be taken that as little injury be inflicted upon them as possible; cleansing with a knife should on no account be permitted, and it is safer to leave some of the leaf on than by cutting it too close to impair the crown of the root. The drier the season is for storing the better, although I have never found the roots decayed in the heap by the earth, which in wet weather has been brought from the field, adhering to them. As to the productiveness of the different sorts, in one year I have grown a larger quantity of sugar-beet per acre, in another of mangold-wurzel; both these, however, I consider exhaust the land in a greater degree than the Swede; but I have formed a very high opinion of the orange-globe, though not so large a producer generally as the two other sorts; it appears always to throw at least two-thirds of its weight above ground, neither is its tap-root larger nor its fibrous roots greater than those of the Swede turnip. Care should be taken in giving cattle every species of this root, as if taken in excess it is apt to scour; indeed, from the avidity with which cattle eat the sugar-beet, and from its viscous properties when quite fresh from the ground, it should be stored so as to come into consumption the last of the roots.

In feeding store cattle I should commence with Swede turnip, proceed with the orange-globe, then with mangold-wurzel, and finish off with the sugar-beet; thus not only frequently varying the food, but using them in the order corresponding exactly with the nutritive matter contained in each description of plant. I have found indeed equally with Lord Spencer, that it will not do to return from any sort of mangold-wurzel to Swede turnips, as even beasts in the straw-yard have for two or three days refused such a change. I may add that the earlier in April your mangold-wurzel is sown the better, the deeper the tilth the greater probability of a heavy crop, but that although both the mangold-wurzel and sugar-beet require a deeper and stronger land than the Swede turnip, yet that

the orange-globe will flourish wherever the latter will succeed.

These are the details of the system I adopt as regards this root, and I shall be glad if I should prevail upon those who have not yet tried the culture of it to grow a small quantity, assured as I am that for certainty of crop and feeding properties the mangold-wurzel will not deceive expectation.

Yours truly,
W. MILES.

Kingsweston, Nov. 1, 1841.

Facts on Food and Manure.

It has been before stated that every part of a plant contains nitrogen as well as carbon; but, as an invariable rule, the seed of all plants contains a much larger quantity of nitrogen than the leaves and stalks, and a lesser quantity of carbon, and inversely, the leaves and stalks contain a much greater quantity of carbon, and a lesser quantity of nitrogen. Now when a horse is fed on grass, his food consists almost entirely of carbon; and the result is, that when he has a sufficient supply he gets fat—that is, that particles of oily, fatty matter are deposited on the muscles under the skin; but, as it is well known, a horse in this condition is quite unequal to any work, and the least exertion reduces his bulk. But when the same horse, under other circumstances, is fed on corn, his food consists principally of nitrogen; and although he may never, under this keep, get as fat as under the other, still the increase he does acquire will be pure muscle, or, as it is technically called, sound flesh; and on this keep he can perform infinitely more work with less fatigue than on food containing no nitrogen.

A more complete instance could not be adduced to show that animals as well as plants can only assimilate that food which is presented them. In the first case, carbonaceous matters being the food of the horse, carbon is deposited in the shape of fat; in the latter, when more nitrogen enters into the composition of his food, the deposit of muscle preponderates. So it is with wheat. With a manure that only supplies carbonaceous matter, starch is the result. With a manure containing nitrogen, gluten is formed; both cases being completely analogous, and affording unerring proof of one simple and uniform law.

Another example of the singular effects resulting from the use of a chemical manure; not in the common and well known case, resulting from all manures, of an increase in the quantity of the crop, but in the quality. The authority is Professor Daubeny, of Oxford.

"In an analysis of one hundred parts of two

different specimens of wheat which were grown on the same field, one of which had been dressed with the nitrate of soda and the other not, the result was—

	Wheat with nitrate.		Wheat with- out nitrate.
Bran,	25	Bran,	24
Gluten,	23½	Gluten,	19
Starch,	49½	Starch,	55½
Albumen,	1½	Albumen,	¾
Extract and water,	1	Extract and water,	¾
	100		100

Thus it is seen that the wheat so nitrated contains four and a half per cent. more gluten and one half per cent. more albumen than wheat not so nitrated; and as it has been stated that gluten is the substance to which flour owes its nutritious qualities, this alone would prove our position. But if we carry our investigation further, and see its results as to the real produce of bread, we shall be more fully convinced than ever of the utility of this manure. And here again we resort to experiments made by the same distinguished Professor, for an elucidation of the fact.

Three pounds and a half of flour made from wheat dressed with nitrates produced 4 lbs. 14 oz. of bread; whilst three and a half pounds of flour, made from wheat where no nitrate was used, yielded only 4 lbs. 4 oz. of bread; thus leaving 10 oz. of bread in favor of the wheat so nitrated."—*Squarey's Treatise on Agricultural Chemistry.*

Butter.

The great point in making good butter, and that which will keep, is the freeing it from all buttermilk; and if everything else is well done, if this point is overlooked, good butter is impossible for any length of time. The mixture of milk in any degree with the butter is sure to produce frowsiness or any unpleasant taste to the butter: and the entire freedom from this constitutes the grand secret of making good butter. There are many who think washing butter with water incompatible with retaining the rich flavor, but if the water is cold and pure it is scarcely possible anything should be washed away, the buttermilk which destroys the flavor of all butter excepted. Besides, the best butter in the world, and that which in all markets commands the best price, viz., Dutch butter, is invariably made in this way; and where the example has been followed by others, it has rarely failed of success. If any, however, doubt the propriety of washing butter, they may use any method they choose, provided the milk is separated perfectly. Perfectly free from the substance that causes it to assume the putrid frowsy taste of bad butter, it may be kept with

almost as much ease as tallow; solidity in packing, clean, sweet vessels, and a low temperature, will ensure its keeping for any reasonable time. Let no one expect good butter, however, so long as coarse impure salt is used; or a particle of the buttermilk is allowed to remain in it.—*Domestic Annals of Butter.*

THE KITCHEN GARDEN.

We commence in this number, a brief manual for the kitchen garden, believing we can offer no better selections to our readers, for the small space it will occupy, than a few plain rules for the successful rearing of those useful vegetables, that are always to be found in the well cultivated garden. They are principally taken from those eminently practical farmers, the Shakers. They need no other recommendation than is to be found in their own successful practice.

ASPARAGUS.—This is a very delicious esculent vegetable, and easily cultivated, after the first operation of preparing the ground. It requires some of the deepest soil in the garden; a rich, sandy loam is the best. The ground should be trenched or spaded up, and a plenty of rotten manure well mixed into the soil to the depth of one foot and a half. Then mark out your beds six feet wide, forming two feet alleys around them, by throwing up six inches top soil on the beds. Next use the rake and hoe, till the ground is well pulverized and made level and smooth. Then mark out your drills one foot apart and two inches deep. Soak the seed twelve hours in warm water; drop it about one inch apart in the row; rake it in, and press the soil over the seed with a board or garden roller. When the young plants are up, hoe them carefully, and keep them clear of weeds through the season. After the second hoeing, pull out the weakest plants, leaving them about four inches apart.

A bed of asparagus, well managed, will produce buds fit for cutting the third spring after sowing. The buds should be cut one inch or more below the surface of the ground. The cutting may be continued until the first of July; then let it grow up, but hoe it frequently till it covers the ground.

Spring dressing. As soon as the ground is dry, so as to work light, separate the stalks from the ground with a hoe, cutting them off beneath the surface, and loosen the surface of the ground all over the beds. Some dry straw, litter or fine brush may be added to these stalks when dry, and the whole burnt together on the ground. This will promote the growth of the asparagus, and destroy many insects' eggs, seeds of weeds, &c. The ground should then be covered one inch thick or more with rotten manure or compost, well incorporated with the soil above the roots; then rake the beds smooth and level.

An application of swamp earth, salt or brine spread on the beds, has been found to promote the growth of asparagus.

Though this vegetable grows naturally in a poor, sandy soil, yet the sweetness and tenderness of the buds depend much on the rapidity of their growth, which is greatly promoted by richness of soil and good attendance. Beds of asparagus may be formed by preparing the ground, as before stated, and transplanting the root of two or three years' growth, setting them with the crown upwards, four inches below the surface.

A good bed of asparagus, if well attended to, will flourish many years; ours occupies one-eighth of an acre of land, the greater part of which has been planted more than 40 years, and is now as good as ever.

Directions for cooking asparagus. Cut the buds when from three to six inches high; clean them well in cold water, cutting off most of the white part, as that which grows beneath the surface of the ground is apt to be tough and bitter. Take water enough to cover the stalks, and put in salt sufficient to season them well; boil and skim the water, then put in the asparagus. Be careful to take them up as soon as they become tender, so as to preserve their true flavor and green color; for boiling a little too long will destroy both. Serve up with melted butter or cream.

BEANS.—A dry, warm soil, tolerably rich, is the best for beans. The ground should be worked fine and mellow. Plant, for early use, from the 20th of April to the 1st of May. The early kinds may be planted in drills two and a half feet apart, and at the distance of three inches in the row, or in hills a foot apart.

The *Early Purple* is the earliest bean, and consequently preferred for early use. The *Early China* and *Early White* are excellent, either for stringing or shelling: they will be fit for use, if the season is favorable, in about six weeks from planting. The *Royal White* is a large, rich bean, excellent for shelling. This kind should be planted in rows three feet apart, and if in hills, two feet from each other, with four beans in a hill; if in drills, six inches apart in the row. The *Running* or *Pole Beans* should be planted in hills, three and a half feet distant each way. They should be planted as early as possible, in a rich, mellow soil. We prefer setting the poles before planting. For this purpose we stretch a line, and set the poles by it; then dig and loosen the earth, and drop five or six beans in a circle round the pole, about three inches from it, and cover with mellow dirt one inch or one and a half in depth. When the plants are well up, stir the earth

around them, and pull out the weakest plants, leaving three to each hill. This should be done when they are perfectly dry; for beans never should be hoed when wet, nor when any dew is on them.

The green pods of beans may be kept and preserved fresh by laying them down in a jar or tub, with a layer of salt between each layer of beans.

BEET.—Prepare your ground as early in the spring as it will work light and mellow, by plowing or digging to the depth of eighteen inches. A deep, rich soil produces the finest roots. If a small bed of the earliest kinds is sown as early as the season will admit, they will be fit for use in June. After making your beds fine and smooth, mark out the drills eighteen inches apart, and one inch deep; drop the seeds along the drills, two inches apart; cover them, and press the soil a little over the seeds. When the plants are up and sufficiently strong, thin them to the distance of six inches apart in the rows. The ground should be often hoed round the plants, and kept free from weeds. Beets for early use, should be sowed about the first of May; for winter use, two or three weeks later, the beds kept clean through the summer, and the roots taken up before hard frosts in the fall. Care should be taken in cutting off the tops, not to injure the crown.

A good method of preserving beets fresh through the winter is, to lay them in a circular form on the bottom of the cellar, with the roots in the centre and heads outward; cover the first course of roots with moist sand; then lay another course upon them, and cover with sand as before, and so on till all are packed and covered.

The *Mangol Wurtzel* and *Scarcity Beet*, also the *Yellow Swedish* or *Ruta бага* turnip, are often raised to great perfection by field culture, for which we give the following directions—

Field culture. Select a deep mellow soil; if not sufficiently rich, make it so with well rotted manure, thoroughly mixed with the soil to the depth of a foot or more. This should be done by plowing and harrowing when the ground is in good order to work light and fine. You may then throw up moderate ridges with the plow, about the distance of three feet apart. Pulverize and level the top of the ridges with a rake. Then, with a dibble or with the fingers, make holes on the centre of the ridge, two inches deep, and eight inches apart; and for beets, drop two seeds in each hole, and cover with fine dirt, pressing it a little over the seed.

Swedish or *Ruta бага* turnip, we generally prefer sowing in a bed of light, mellow soil, from the 1st to the 10th of July. After having

attained a sufficient size for transplanting, the ground being prepared as above directed for beets, set the plants about ten inches apart in the row; while the plants are young, the ground should be often stirred around them, and kept clean from weeds through the season. The horse plough, or cultivator, should be often used between the rows, especially in dry, hot weather.

The average crop of beets and turnips, on good land, with proper management, is about fifteen tons, or 560 bushels, to the acre. The quantity of seed required for the *Mangol Wurtzel* or *scarcity beet*, is about four pounds to the acre: for the *Ruta Бага* or *Swedish turnip*, about one pound and a half. To quicken vegetation, the beet seed in particular, should be soaked twenty-four hours in warm water.*

There are various methods of field culture recommended and practised by different people. Some sow the seed broad cast: others in rows on level ground, from ten inches to four feet apart: some sow or transplant on moderate ridges, and others on very high ridges.

CABBAGE.—This vegetable requires a light, rich, and rather moist soil. The seed may be sown about the middle of May, either in a bed for transplanting, or where they are intended to grow. The transplanting should be done when the ground is light, just before a shower, or in cloudy, moist weather, but never when the ground is wet and heavy. Before transplanting, dip the roots into a mixture made of rich mould and water. They should be hoed often while young, at least twice a week; the best time for hoeing is when the dew is on. If lice should appear on the plants, wet them with a strong decoction of tobacco, put on with a small brush, or rubbed on with the hand.

Cabbage should be secured before very cold weather, and their roots buried in the dirt; but never let them rot in a cellar under your dwelling house, unless you wish to destroy the health of your family.

* We would strongly urge the soaking of the turnip seed 48 hours in Tanners' oil before sowing. The oil so strongly impregnates the first leaves of the plant, as to keep off the fly, so destructive to it in the early stages of its existence.

Both the beet and turnip for winter feeding, should be sown as late as possible, and yet allow the roots time to mature before the severe frosts set in. This time must not only depend on latitude, but on the season, soil, exposure, &c. &c., which can only be determined from actual experiments by each farmer for himself. It should always, however, be done before the dry, summer weather commences, so as to allow the plants to get a good start and partially shade the ground. From 15th May to 10th June for beets, and from 20th May to 25th June, is the proper time for sowing the *Ruta Бага*.

CAULIFLOWER. This requires the best of rich, light soil. The early kind is most suitable for this climate. It should be sown about the 20th of September, for spring use; and it requires much care to keep them during the winter. For fall use, they may be sown in a hot bed in March, or in the open ground about the 20th of May. They should be protected from the northwest winds by walls or hedges, and great pains must be taken in every stage of their growth, as the extremes of heat and cold operate very unfavorably upon them.

To cook Cauliflower. Cut it when close and white, and of a middling size; cut the stem so as to separate the flower from the leaves below it. Let it lie in salt and water awhile; then put it into boiling water, with a handful of salt. Keep the boiler uncovered, and skim the water well. A small flower will require about fifteen minutes boiling—a large one about twenty. Take it up as soon as a fork will easily enter the stem: a little longer boiling will spoil it. Serve it up with gravy or melted butter.

CARROT.—The long orange or red is generally preferred, both for garden and field culture: the short orange is the earliest and deepest color.

Soil. Carrots require a light, mellow soil, with a mixture of sand. The ground should be dug or trenched deep, and well broken up, in order to give plenty of room for the roots to penetrate into the soil; it should also be made fine, smooth and level.

Sowing. As the seeds have a fine, hairy furze on the borders or edges, by which they are apt to cling together, they should be well rubbed between the hands in order to separate them. To forward vegetation, they should be soaked in warm water about twenty-four hours, and then mixed with dry sand, so as to separate them as much as possible in sowing. They should be sowed in a calm time, and scattered as equally as possible.

The seed should be sown in drills about an inch in depth; the rows from eighteen to twenty inches apart, so as to give plenty of room to hoe between them. Some recommend from nine to twelve inches, and others from eight to ten: this may answer in small family gardens, where the land is scarce; but where there is a sufficiency of ground, the carrots are more easily cultivated, and will thrive better and grow larger at a greater distance.

Field culture. The best soil for field carrots is a deep, rich, sandy loam. To obtain a good crop, the soil should be a foot deep at least, and well prepared by very deep plowing and thorough harrowing, so as to make the ground perfectly mellow, smooth and level. It is a matter

of importance to wet the seed and cause it to swell, so as to hasten vegetation; because the weeds are apt to start very quick after sowing, and if the seed is not quickened, the weeds will get up and overpower the carrots, before they get large enough to hoe. The seed may be sown in drills, as directed for garden culture or on moderate ridges, from two to three feet apart, and cultivated between the rows with a horse plow. In hoeing, they should be thinned to three or four inches apart in the rows. Two pounds of seed is considered sufficient to sow an acre of ground in drills two feet apart.

Carrots are excellent for fattening beef, and for milch cows. Horses are remarkably fond of them. When cut up small, and mixed with cut straw and given them, with a little hay, it is said they may be kept in excellent condition for any kind of ordinary labor, without any grain.

CELERY.—The *White Solid* is considered the best kind of celery. We have had the best crops by sowing the seed in the latter part of March, in a hot bed. After the plants have attained the height of about six inches, they may be transplanted into trenches. Select, for this purpose, a piece of rich ground, in an open exposure; lay out your trenches about eighteen inches wide, allowing six feet space between each trench; plow or spade out the earth from the trenches to the depth of sixteen or eighteen inches, if the depth of soil will admit; put about three inches of very rotten manure into the trench; then throw in upon this manure about five inches of the best soil; mix and stir the manure and soil well together; then set your plants by a line in the centre of the trench, leaving a space of four inches between each plant. If the weather be dry, water the plants freely. They should be shaded till the roots strike and the plants begin to grow; the covering should be taken off at night.

When they have attained the height of ten inches, you may commence earthing them up; but never do it while the plants are wet. In performing this, care should be taken to gather all the leaves up with the hand while drawing the earth up equally on each side of the row, being careful to leave the hearts of the plants open. Repeat the earthing once a week or oftener, till about the last week in October; then bury the whole with dirt, to remain till time for digging.

Celery may also be raised by sowing the seed in a rich, moist soil, and removing it into trenches as before directed; or by sowing it in the trenches where it is to grow. As the seed vegetates very slowly, it should be soaked in warm water for twenty-four hours before sowing. To preserve it through the winter,

dig it before the ground freezes deep, and pack it away in casks or tubs with dry sand, and keep it in the cellar. Some recommend to cover the ridges with boards, and dig the celery as it is wanted for use. This may answer in a dry, sandy soil; but in a wet or moist soil it is apt to rot and spoil.

CORN.—The *Early Canada* is the earliest kind of corn we raise, and is preferred only for being several weeks earlier than the common field corn. The *sweet* or *sugar* corn is the best for cooking in its green state, as it remains much longer in the milk, and is richer and sweeter than any other kind. It is rather later than the common field corn, and is therefore fit for the table when the field corn has become too hard. Alluvial, or any gravelly or sandy soil, if made sufficiently rich and properly cultivated, will produce a good crop. It should not be planted till the weather becomes settled and warm, and the soil sufficiently dry. It may be planted in hills, like the common field corn, or in a garden in drills, like broom corn; as in this way a larger crop may be produced from the same quantity of ground. Care should be taken that no other kind of corn be planted near it, as by intermixing it will soon become adulterated and injure the crop. This corn may be preserved for winter use, by par-boiling it when green, and cutting it from the cob and drying it in the sun. It then affords a wholesome and agreeable dish when cooked like bean porridge, or what is called *succotash*.

CUCUMBER.—The early kinds are most suitable for early planting. For the purpose of obtaining them very early, some plant the seed in a hot bed, or in elevated hills, well manured with rotten horse-dung, and covered with glazed frames. But in order to grow fair, handsome cucumbers, the soil should be rich, light and warm, and well mixed with rotten manure; or a good shovel full may be put into each hill, and thoroughly mixed with the soil in the hill. We generally plant the early kinds about the first of May, in hills about four feet apart each way, elevating the hills above the level of the ground. Put in six or eight seeds into each hill, and cover them half an inch deep with fine dirt, and, as in all other planting, press the earth a little over the seeds with the back of the hoe.

When the plants are up, examine them closely, as they are frequently attacked by the yellow bug or fly. To prevent this, take rye flour, sifted ashes and ground plaster, equal parts of each, well mixed together, and dust the plants all over with it. If the plants are dry, sprinkle them with water before you dust them. Snuff, tobacco dust, or the stalks boiled in wa-

ter, soot, or a decoction of elder and walnut leaves, are all very good to prevent small bugs and insects from injuring any young plants. Keep the ground loose and clear of weeds, and in dry weather water your plants freely. After they have attained a vigorous growth, and the danger of insects is over, they may be thinned out, leaving two of the most thrifty in a hill.

Those intended for pickling may be planted from the 10th to the 20th of June. If the soil is rich and warm, the 20th is preferred. The long kinds are preferred by some for pickles. The cultivation and management of these is the same as the others, excepting that the hills should be at least five feet apart each way. Some recommend nipping off the first runner bud of cucumbers and melons, from an idea that they will become more stocky and fruitful.

LETTUCE.—Lettuce requires a mellow soil. It should be sown as early in the spring as possible: to insure a very early supply, it may be sown late in the fall—it will then start early in the spring; but to obtain a constant and regular supply through the season, it should be sown every month from March to September. It may be sown broad-cast, moderately thin, or in rows from twelve to eighteen inches distant, according to the usual size of the different kinds. Rake in the seed lightly, with a fine tooth garden rake. When the plants are up, stir the ground lightly while it is dry, and clear out the weeds: thin the plants where they crowd each other. Those intended for large heads should stand eight or ten inches apart: the hardy kinds, such as the *early green*, *early curled* and *ice coss*, may be sown in September, and covered with straw at the approach of severe weather. Or any kind may be sown in a hot bed in March, and transplanted in the open ground at the proper season.

MELON.—This plant requires a warm gravelly or sandy soil, made very rich with well rotted manure from the hog pen, or rich old compost, well mixed with the soil. The hills may be formed after the manner recommended for cucumbers. But if the natural soil is not sufficiently warm for melons, then dig a hole of sufficient size, and put in a large shovel full of rotten horse dung; upon this put the compost or rotten horse dung, with a quart of slacked lime: then add some good mellow soil, and mix it up well on the surface without disturbing the horse dung at the bottom. The hills may be made from six to eight feet apart; for water melons, on rich, warm land, where they grow most thrifty, nine feet is near enough.

Plant about the middle of May, if the weather be warm and the ground in good order. The

seed should be soaked a few hours in warm milk and water, with a little soot in it. Put six or eight seeds in a hill, and cover half an inch deep. When the plants become strong and thrifty, so as to be out of danger, pull out the weakest, leaving only two in each hill; indeed one would always be sufficient, if secure from all accidents. The ground should be often hoed round the hills, and kept loose and light. If you would raise good melons, you must plant them remote from any other vines; for in the vicinity of cucumbers, squashes, pumpkins, gourds and the like, they will infallibly degenerate. In this respect, therefore, they require great care and attention. To secure them from insects, pursue the directions given for cucumbers.

MUSTARD.—The white and broad-leaf kinds are excellent for salad or greens. They should be sown very early in the spring, in a rich, warm soil, in shallow drills, ten inches apart, and kept clean from weeds. After the crop is off, the ground may be planted with cucumbers for pickling, or used for a succession of salad or radishes. The brown mustard seed is the best for grinding; it is a palatable and healthy condiment, and may be sown broad-cast or in drills, and kept clean from weeds.

ONION.—Onions require a rich, mellow soil, rather moist and sandy or gravelly. A heavy clammy, or a dry clayey soil will not do for them. They grow well on alluvial soil, such as is made by the overflowing of rivers and streams, or from the wash of hills. The ground requires to be well worked and made completely mellow by plowing and harrowing, and then raked over with an iron tooth rake, so as to break the clods and pulverize the soil. If not sufficiently rich, it may be made so by a plentiful supply of good manure, well rotted. Dung from the hog pen is considered the best manure for onions; though any rich and well rotted manure will answer. The manuring must be repeated annually; because onions have a great tendency to impoverish the soil; but if well manured, they will do better on the same ground every year. The manure may be put on in the fall and plowed in. Plow the ground again in the spring, as early as it can be done after the frost is out. Work it over thoroughly, and prepare it for sowing as early as the season will admit.

When the ground is sufficiently leveled and pulverized, stake out your rows, draw your garden line, and make your drills about 16 inches apart, so as to afford sufficient room for hoeing between the rows. The drills should not be more than an inch in depth; if the ground is moist, three-fourths of an inch will answer. The seed (if good) should be sowed sparingly.

Many are very apt to put in too much seed, and of course, must thin out a large portion, or have a crop of small onions. Good seed, well put in, will not fail to come up well. After the seed is in, rake lightly over the drills, lengthwise; and when the seed is all covered, if you have a small light garden roller, (which should be kept in every garden,) draw it carefully over the bed from end to end of the rows, till the whole is rolled. If you have no roller, take a long board and lay it lengthwise on the rows and walk on it; then move it to the next row, and proceed on in this manner till the whole bed is pressed. This will make the seed come up more even and equal.

When the onions are fairly up, the weeding and hoeing should be immediately attended to. If they are too thick, thin them out so as to let them stand two or three inches apart; but this should be carefully done, so as not to disturb those that remain. It is better to do the thinning by degrees, at each successive hoeing, rather than all at once, as the little black grubs will sometimes thin them off too rapidly. The ground must be often hoed and kept clean of weeds, or they will not do well.

Onions will sometimes run to scallions, having a thick, stocky neck and little or no bulb. To prevent this, some recommend breaking the tops down, when they have attained their full growth. But if the ground is suitable and well prepared; if good seed is sown, and properly cultivated, there is little danger of scallions; besides it is not a very good practice to break the tops down. The onions will be ripe in September. When the tops are sufficiently dry, pull the onions and let them lie a few days in the sun to dry; then gather them up and house them. They may be kept through the winter, by spreading them on shelves in a cool dry cellar. Some prefer bunching them up, which is a very good plan to keep them dry. A damp warm cellar will cause them to sprout and rot, which should be avoided.

PARSLEY.—This plant should have a good rich soil, and may be sown at almost any time. For early spring use it is sometimes sown late in the fall, and the ground covered with straw; it is also sown early in the spring—also in March, April, May or June. But as the seed vegetates slowly, it should be soaked in warm water from twelve to twenty-four hours. In order to hasten vegetation, some recommend mixing sulphur with the water. If sown in the spring and frequently cut, the plants shoot up more thick and stocky, and afford a plentiful supply through the whole season. It should be kept free from weeds.

To be continued.

TOP DRESSING ON GRASS.

The Dressings detailed below were applied to 8 plots 1st May, the grass cut 1st July, hay weighed 19th July.

Manures used, and quantities applied, to each plot of 1-20th of an acre.	APPLICATION.			
	I. Experiment—good light soil, subs. gravel.		II. Experiment—clay soil, subsoil dry.	
	Total produce per Imperial Acre.		Total additional weight per Imperial Acre.	
	ts.	lbs.	ts.	lbs.
1lb. sulphuric acid, diluted in 47 galls. water..	271	44	256	26
6lbs. saltpetre (nitrate of potash).....	332	95	286	56
6lbs. nitrate of soda.....	339	112	282	52
6lbs. sulphate of soda (Glauber salts).....	292	65	232	32
17lbs. gypsum.....	254	27	240	10
One bushel wood charcoal (pounded).....	277	30	227	27
One-quarter bushel common salt, 25 gallons water.....	294	67	269	39
One gallon ammoniac liquor, 47 gallons water.....	277	50	201	..
No application.....	227	..	230	..
	Increased weight on 1-20th of an acre.		Increased weight on 1-20th of an acre.	
	ts.	lbs.	ts.	lbs.
Total produce per Imperial Acre.	2	8	2	5
	cwt.	17	cwt.	11
Total additional weight per Imperial Acre.	1	2	2	10
	qrs.	4	qrs.	2
	1	16	1	24
	lbs.	..	lbs.	..
	1	16	1	24
	cwt.	..	cwt.	..
	3	3	3	3
	qrs.	12	qrs.	12
	3	24	3	24
	lbs.	..	lbs.	..
	3	24	3	24
	qrs.	..	qrs.	..
	3	24	3	24
	lbs.	..	lbs.	..
	3	24	3	24
	qrs.	..	qrs.	..
	3	24	3	24
	lbs.	..	lbs.	..

The above experiments were made by Prof. Johnston. Several of the applications here enumerated, will not be resorted to, probably in this country; but the results of *gypsum, charcoal, and salt*, commend them-

selves to the consideration of every thinking farmer. We hope to be able at the end of this season to give the results of similar trials from our own countrymen on this interesting subject.

POTATOES, by planting early, have time to grow and shade the ground before the extreme heat comes on to check them; and this one circumstance is oftentimes the cause of securing the crop. The land is prepared by an autumnal ploughing, and sometimes two, when requisite; so that when the furrow came to be turned on to the sets, it mouldered over them like ashes, the dung having been carried on to the land during the frosts of winter, and spread when the season would admit. The business of planting commenced by throwing out a furrow, in which the sets were placed about fourteen or fifteen inches distant, then came boys with rakes, pulling in upon them the dung from the land designed for the two next furrows, when the planters again followed, and then the raker. Thus the land was planted in every alternate furrow, in which only the dung was placed. After the field was planted, it was well harrowed, and very carefully spread with a thick coat of lime that had been slaked on the ground by being covered, a basketful in a heap, by throwing a little earth on it, which effected the business in a surprisingly short space of time, and in the most complete manner; and a single flat-hoeing of the weeds, completed the labor until the time of taking up, unless, perhaps, the pulling by hand a few single weeds, that might have escaped the operation of the hoe. The crop was generally taken up by the plough, and always proved very superior to those that were planted by any other mode, especially in seasons of drought, when the common system of moulding up is attended by very uncommon injury to the crop. My potatoes were always of a very regular size, with no small and ill-formed roots or small tubers growing to the larger ones; those being occasioned by moulding up the crop while growing, which operation forcing on another start in vegetation, it expends itself in the formation of small and incipient tubers, to the very great deterioration of the crop and its delay in ripening. I always selected my seed from the finest potatoes that I could obtain at any price, cutting one eye only to a piece, and planting as soon as cut; and in this way I have raised more than 700 bushels per acre, with far less labor and expense than others have bestowed on crops of less than half that quantity, and of very inferior quality. A good coat of lime, spread on the land after planting the potatoes, operates surprisingly: first, as destroying the worms and grubs; second, by its antiseptic property, retarding the action of the dung, and preventing it from giving forth its whole powers during the early growth of the crop—preserving it until the time of ripening, when the most of its vigor is required; and, third, in preventing a surface-growth of weeds, which I am convinced that it does in a remarkable manner. And all this is effected by the water which percolates through the surface-soil after every rain. In every way its use is great, but in none more than in the benefit which it yields to the following crop, which ought always to be oats, seeded with clover; my custom being, as soon as the potatoes are removed, to plough up the ground into wide ridges, called reaches, so to lie all winter, and on this surface, without another ploughing, to harrow in the oats, four bushels of seed per acre, in February, if the season will admit.

I find that some person declares that he has found the largest crops of potatoes to be raised from the stalk-end of the tuber. Now this is contrary to all my experience, having always found the best and earliest crops to spring from the eye-end of the po-

tato—a larger yield and an earlier harvest by two or three weeks; the quality also being very superior. From an experiment which I made with the thin cuttings from the eye-end of the potato, taken off while preparing for cooking, (the pieces often not larger or much thicker than a twenty-five cent piece,) I have raised the best crop that I ever grew, uniform in size and early in growth; the slices weighing at the time of planting 100 pounds, the crop on taking up weighing 240 pounds.—*Far. Cab.*

SEED POTATOES.—Our own observation and experience justify us in saying, that, in equality of soil, manure, and culture, the product of large potatoes will always greatly exceed that of small imperfect ones, though of the same variety. We recollect, upon one occasion, to have bought a lot of thirty bushels of refuse potatoes, because of their cheapness, for planting, which we treated with every possible care, so far as manure, preparation of the soil, and after-culture were concerned. The product of this lot were like their parents, perfect dwarfs, small alike in vines and tubers, and appearing from the beginning not to possess the requisite vigor to insure healthful vegetation. We made, from a planting of ten bushels of the same variety of the potato, which we selected in consequence of their great size, planted in similar ground, and treated in all respects alike as to manure and culture, the same season, six times as many roots as from the first parcel. And while the first were, from their diminutive size, too small for anything but to feed stock, the latter were as large roots as any farmer need desire to raise; many of them weighing one and three-fourth pounds, and the greater portion from six ounces to a pound.—*Amer. Far.*

SWEET POTATOES.—Make a bed of long manure from eight to twelve inches thick, surrounding it with a rough frame of boards. Put three or four inches of mould over the manure; split the potatoes and lay them thick on the mould, and cover with four inches of mould. As soon as the sprouts begin to come above the ground, draw them, laying one hand on the potato to keep it in place. The sprouts must be drawn as they come up, as long as the planting season remains. They are to be set out in the hills after a rain, two sprouts in a hill, or in rows fourteen inches apart. By commencing early, a bushel of seed potatoes will plant an acre. This plan is decidedly preferable to planting the potato itself. When nights are cold, boards must be laid across the bed. In making the bed, the manure may be omitted by those who do not like the trouble, but the sprouts will come forward much later. The bed, in dry weather, must be frequently watered.—*Lou. Journal.*

FRUIT TREES.—Be careful in planting to give the trees a fair chance for life and health, by digging the holes in which they are set, wide and large, so that they may be surrounded by loose earth, that can be easily penetrated by the tender fibres of the roots which are to convey nourishment for their sustenance and growth. A tree properly planted will grow as much in five years as one carelessly and badly set in will in ten; and often the chance of survivorship is dependent on slight circumstances.

An excellent plan for preventing young fruit trees from becoming hide-bound and mossy, and for promoting their health and growth, is to take a bucket of soft soap, and to apply it with a brush to the stem or trunk, from top to bottom; this cleanses the bark, destroys worms or the eggs of insects; and the soap, becoming dissolved by rains, descends to the roots, and causes the tree to grow vigorously. A boy can

make this wholesome application to several hundred trees in a few hours. If soft soap was applied to peach trees in the early part of April, to remove or destroy any eggs or worms that might have been deposited in the autumn, and again in the early part of June, when the insect is supposed to begin its summer deposits of eggs, it is believed we should hear less of the destruction of peach trees by worms. But the application should *not be suspended* for a single season, on the supposition that the enemy had relaxed in his hostility.—*Far. Cab.*

LICE ON CATTLE.—1. *Mercurial ointment*, rubbed on the animal from the crown of the head to the root of the tail, down the back bone, will effectually kill lice in a day or two. This, however, is a dangerous remedy to use, unless the animal is kept in the stable, and requires great care to preserve him from the effects of cold and wet.

2. *Corrosive sublimate* is another effectual remedy. This is to be applied, as before prescribed, but, like number 1, is dangerous.

3. A *strong decoction of larkspur* is also a sure and safe remedy. This should be applied as recommended for number 1.

4. *Spirits of turpentine* is also a sure remedy. It should be applied as number 1.

5. A *decoction of tobacco*, applied as number 1, will destroy the lice.

6. A *mixture of Scotch snuff and fish oil*, rubbed on the affected parts, will destroy the lice.

7. A *mixture of soft soap and Scotch snuff*, well rubbed on the parts, will also eradicate them.

As an auxiliary to whatever remedy may be used, the currycomb and brush should be freely applied, after a day or two, in order that the hide and hair of the animal may be kept clean. No animal which is well fed, and daily curried and brushed, will either breed or retain lice; the latter operation, however, few who have much stock can regularly attend to.—*Am. Far.*

A small quantity of *green sage*, placed in the closet, will cause *red ants* to disappear.

CANDLES.—Prepare your wicks about half the usual size, wet with spirits of turpentine, put them in the sun until dry, then mould or dip your candles.

Candles thus made last longer, and give a much clearer light. In fact they are nearly or quite equal to sperm, in clearness of light.

PANES OF GLASS may easily be removed by the application of soft soap for a few hours, however hard the putty has become.

JERUSALEM ARTICHOKE. (*Helianthus tuberosus*).—It flourishes most in a rich light soil, with an open enclosure. The only mode of propagation is by planting the middle-sized tubers or cuttings of the large ones, one or two eyes being preserved in each. These are best planted towards the end of March, though it may be performed as early as February, or even in October, and continued as late as the beginning of April.

They are planted by the dibble, in rows, three feet by two feet apart, and four inches

deep. The only attention necessary is to keep them free from weeds, and an occasional hoeing, to loosen the surface, a little of the earth being drawn up about the stems. Some gardeners, at the close of July, or early in August, cut the stems off about their middle, to admit more freely the air and light; in other respects it may be beneficial to the tubers.

The tubers may be taken up as wanted during Sept.; and in October, or as soon as the stems have withered, entire for preservation in sand, for winter's use. They should be raised as unbroken as possible, for the smallest piece of a tuber will vegetate, and appear in the spring.

(Johnson's Kitchen Garden.)

REVIEW OF THE MARKET.

Prices Current in New-York, April 20, 1842.

ASHES, Pots, per 100 lb.	\$ 5 87½	to 6 00
Pearls, do.	5 50	.. 5 62
BEEFWAX, Yellow, per lb.	29	.. 31
COTTON, Louisiana, do.	5½	.. 10½
Upland, do.	5½	.. 9½
Florida, do.	5½	.. 8½
Alabama, do.	5½	.. 10½
FEATHERS, American, live, per lb.	30	.. 35
FLAX, American, per lb.	7½	.. 8
FLOUR, Northern and Western, via Erie Canal, per bbl.	6 18½	.. 6 3½
do, via N. Orleans, ..	5 87½	.. 5 93½
Southern, per bbl.	5 75	.. 6 00
RYE, per bbl.	3	.. 3 25
MEAL, Corn, per bbl.	3 00	.. 3 12½
do, per hhd.	14 50	.. 15 00
WHEAT, Western, per bushel, ..	1 26	.. 1 28
Southern, do.	1 18	.. 1 23
RYE, Northern, per bushel, ..	60	.. 61
CORN, do.	62½	.. 64
Southern, do.	59	.. 59
BARLEY, per bushel, ..	75	.. 75
OATS, Northern, per bushel, ..	43	.. 43
Southern, do.	40	.. 43
PEAS, Green, do.	1 12	.. 1 15
Marrowfat, for seed, per bushel, ..	1 40	.. 1 46
BEANS, White, per bushel, ..	1 00	.. 1 40
CLOVER SEED, per lb.	7	.. 8½
TIMOTHY SEED, per tierce of 7 bu.	14 00	.. 16 50
FLAX SEED, rough, do.	11 50	.. 11 50
clean, do.	13 00	.. 13 00
RICE, per 100 lb.	2 25	.. 3 25
HEMP, Russia, per ton, ..	237 50	.. —
American, do.	—	.. —
HOPS, first sort, per lb.	12½	.. 14
LEAD, Pig, per lb.	3½	.. 3½
Sheet and Bar, per lb.	5½	.. —
OIL, Linseed, American, per gal.	80	.. 86
PLASTER OF PARIS, first quality, per ton, ..	2 50	.. 2 62
BEEF, Mess, per bbl.	7 25	.. 8 00
Prime, do.	4 00	.. 4 50
Cargo, do.	2 75	.. —
PORK, Mess, do.	7 12	.. 9 00
Prime, do.	5 25	.. 7 75
LARD, per lb.	5½	.. 6½
BUTTER, best Table, per lb.	18	.. 21
Western, good, per lb.	12	.. 14
Shipping, do.	7	.. 8
CHEESE, in boxes and casks, per lb.	7½	.. 9½
HAMS, Smoked, per lb.	6½	.. 7½
Pickled, do.	4	.. 4½
BEEF, Smoked, do.	4	.. 6½
SUGAR, New Orleans, per lb.	3	.. 5½
TOBACCO, Virginia, do.	3	.. 6
Kentucky, do.	2½	.. 6½
TALLOW, American, do.	6	.. 8
WOOL, American Saxony fleece, per lb.	38	.. 40
Full blood Merino do.	32	.. 34
Half to three-fourths do.	28	.. 30
Native to half do.	18	.. 26
SHEEP PELTS, each, ..	35	.. 80
FAT CATTLE, per 100 lbs., prime	7 00	.. 7 75
Inferior, do.	4 00	.. 6 00
Do. SHEEP, each, ..	1 50	.. 5 50
HAY, unpacked, per 100 lbs.	75	.. 93½
APPLES, per bbl.	3 00	.. 3 50
POTATOES, best, per bushel, ..	28	.. 31
EGGS, per 100, ..	95	.. —

Remarks.

The market generally continues very dull. FLOUR AND MEAL.—English advices to April 2d, represent their market dull. Sales were making in bond at 26s 6d to 27s. The demand in this city is extremely dull. Richmond city is scarce and wanted. Exports from 1st to 13th April, 6,157 bbls.

WHEAT is scarce and wanted.

CORN comes in slowly, and there is considerable demand for Eastern ports.

BEEF AND PORK are without change and very dull.

CLOVER SEED is in request for home consumption, and Timothy is scarce and still continues enormously high. We think our Farmers will consult their own profit, as well as the general interests of the community by preparing this article more abundantly for the market. The price has been excessively great for the last 2 years.

When shall we have American Hemp to add to the quotations in our market?

GREAT SALE OF DURHAM CATTLE,

Near Cincinnati, Ohio, on THURSDAY, 30th JUNE, 1842.

THE Subscriber will sell at Auction, at his farm, six miles from Cincinnati, on Thursday the 30th day of June next, his ENTIRE STOCK of Improved Short Horn Cattle, numbering in all 27 Head.

The sale will commence at 10 o'clock A. M. and continue until all are sold.

The terms of sale will be for all sums over \$100, 12 months credit, with the privilege of two years, with interest on the second year, and approved security.

Arrangements can be made on reasonable terms, to have the cattle that are purchased, kept at the risk of the purchaser, until fall if required.

JOHN MAHARD, Jr.

BULLS.—PEDIGREES.

No. 1, PRINCE FREDERICK, (for portrait see No. 7, vol. 2, of Western Farmer and Gardener.) a rich roan; calved 28th Sept. 1837, got by Ohio; d. Octavio by Denton; gr. d. Sylvia by San Martin; gr. g. d. Mrs. Mott, imp. in 1817. Ohio got by Mercutio, d. Mandane, (bred by Mr. Baker of East Layton, selected and purchased in England by Col. Powell, in 1830,) by Richmond; g. d. Mary Ann by North Star; gr. g. d. by Mr. Allison's son of Sir Dimple; gr. gr. g. d. by Sir Dimple; gr. gr. g. d. by Layton; gr. gr. gr. g. d. by Styford; gr. gr. gr. g. d. by Colling's Lane Bull.

Mercutio, sire of Ohio was got by Adonis; d. Zulinda by Malcolm; g. d. Desdemona by Frederick; gr. g. d. Delia by Cleveland; gr. gr. g. d. Red Daisy by Major; gr. gr. g. d. by Windsor; gr. gr. gr. g. d. by Punch; gr. gr. gr. g. d. by Hubback.

Adonis, got by Malcolm, imported by Mr. Powell. (See English Herd Book for all these noble animals on the sires side of Prince Frederick.)

Denton, got by Champion; d. Lady Munday by San Martin; g. d. Mrs. Mott imported.

No. 2, NAPOLEON; red and white; calved 9th Oct. 1838; got (in England) by Fantastical; d. Fortuna by Reformer, (2512); g. d. Florence by Lindrick, (1170); gr. g. d. Florence by Sir Alexander, (591); gr. gr. g. d. by Star (618); gr. gr. g. d. by Snowball; gr. gr. gr. g. d. by Sir Dimple (594).

Fantastical, got by Bulmer (1760); d. Fan by Harpham (1096); g. d. Delicacy by Ketton (346); gr. g. d. by Expectation (247); gr. gr. g. d. by Magnum Bonum (2882); gr. gr. gr. g. d. by Harry Chapman's Bull; gr. gr. gr. g. d. by Ralph Grimston's Bull; by a Son of Dalton Duke (188).

No. 3, MARION. Calved Dec. 1840; got by Prince Frederick, (as in No. 1 Bulls); d. Fortuna (as in No. 1 Cows).

No. 4, FANTASTICAL. Calved Dec. 1840; got by Napoleon (as in No. 2 Bulls); d. Duchess by Denton; g. d. Speckled Durham by Cornplanter; gr. g. d. Durham by Champion.

Cornplanter, got by imported Tecumseh; d. Lady Munday by San Martin; g. d. Mrs. Mott.

No. 5, FRANKLIN. (9 months old;) got by Napoleon (as in No. 2 Bulls); d. Ariaden by Ohio (as in No. 1 Bulls); g. d. Duchess (as in No. 4 Cows).

No. 6, ALBION. (4 months old;) got by Berryman; d. June by Scrip (2604); g. d. Whitworth by Miracle (2320); gr. g. d. by Volunteer (2306); gr. gr. g. d. by a son of Remus (550).

Berryman, (imported in 1838 by Messrs. Neff & Lawrence— for portrait see No. 6, vol. 2 of Western Farmer and Gardener); got by Henwood (2114); d. Minniken by Wharfedale (1758); g. d. Minna by Nestor (452); gr. g. d. Minerva by Harold (291); gr. gr. g. d. Mary by Meteor (432); gr. gr. gr. g. d. Magdalene bred by Mr. C. Colling, by Comet (155); gr. gr. gr. g. d. by Cupid (177).

No. 7, PILOT. (4 months old;) got by Berryman (as in No. 6 Bulls); d. Duchess (as in No. 4 Cows.)

No. 8, PYM. (4 months old;) got by Berryman (as in No. 6 Bulls); d. Adelaide (got in England) by Sir Walter (2639); g. d. Juno (as in No. 3 Cows).

COWS AND HEIFERS.

No. 1, FORTUNA. (Imported roan, calved 26th August, 1835); got by Reformer (2512); d. Florence by Lindrick (1170); g. d.

Florence by Sir Alexander (591); gr. g. d. by Star (618); gr. gr. g. d. by Snowball; gr. gr. g. d. by Sir Dimple (594).

Reformer, got by Young Fairfax (1991); d. Beauty by Imperial (2151); g. d. Beauty by Favorite (1030); gr. g. d. Beauty by Young Dimple (971); gr. gr. g. d. Daisy by Wellington (678); gr. gr. g. d. Beauty by Duke alias Young Comet (905); gr. gr. g. d. by Layton a son of Mr. Charge's Grey Bull (872); gr. gr. g. d. by Eclipse, a son of Mr. James Brown's White Bull (98).

No. 2. *LADY ANN*. (Imported, spotted roan, calved 8th April, 1836); got by Magnum Bonum (2243); d. by Linton; g. d. by Jupiter (343); gr. g. d. by Easy (232).

Magnum Bonum, got by Charles 2 (879); d. by Rob Roy (557); g. d. by Marshal Blucher (416); gr. g. d. a Cow of Mr. Wright's of Cleasby.

Linton, got by Richmond (1380); d. Cynthia by Remus (550); g. d. Arbutus by Comet (155—one thousand guineas). For portrait see No. 4 of vol. 2 of the Western Farmer and Gardener.

No. 3. *JUNO*. Imported, roan, calved in January 1836; got by Scrip (2604); d. Whitworth by Miracle (2320); g. d. by Volunteer (3806); gr. g. d. by a son of Remus (550).

Scrip, got by Baronet (1636); d. Premium by St. Albans (1412); g. d. by Waverly (2819) &c.

No. 4. *DUCHESS*. Red, 8 years old last spring; got by Denton; d. Speckled Durham by Cornplanter; g. d. Durham by Champion.

Cornplanter, got by imported Tecumseh; d. Lady Munday; she was by San Martin, out of Mrs. Mott.

Denton, got by Champion; d. Lady Munday by San Martin; g. d. Mrs. Mott imported.

No. 5. *KATE KEARNEY*. Red and white, calved 9th April, 1838; got by Proclamation; d. Florida by Young Bolivar; g. d. Pennsylvania by imported Bolivar (804); gr. g. d. by imported Gloucester (1014); gr. gr. g. d. by imported Champion (864); gr. gr. g. d. by Young Comet.

Proclamation, got by Denton; d. Sylvia by San Martin; g. d. Mrs. Mott imported.

Young Bolivar, got by imported Bolivar (804); d. (Dr. Roger's Beauty) by imported Gloucester (1014); g. d. (Dr. Roger's Silver Skin) by imported Champion (864).

No. 6. *ARIADEN*. Red, some white spots; calved 27th July, 1838; got by Ohio (as in No. 1 Bulls); d. Duchess (as in No. 4 Cows).

No. 7. *EMPRESS*. White, calved 11th Dec. 1838; got in England by Barforth; d. Lady Ann (as in No. 2 Cows).

Barforth, got by Acmon (1606); d. by Young Rockingham (2547); g. d. by Wonder (2853); gr. g. d. by Wellington (678); gr. gr. g. d. by Mars (412); gr. gr. g. d. by Ladron (353); gr. gr. gr. g. d. by Sweepstakes (637).

No. 8. *ADELAIDE*. Red with some white spots; calved 13th Oct., 1838; got in England by Sir Walter (2639); d. Juno (as in No. 3 Cows).

Sir Walter, got by Miracle (2530); d. Premium by Snowdrop (2653); g. d. by St. Albans (1412); gr. g. d. by Waverly (2819); Washington (675).

No. 9. *VERBINA*. Got by Baron Steuben; d. Duchess (as in No. 4 Cows).

Baron Steuben, got by Sam Patch; d. Hyacinth by imported Tecumseh; g. d. Tulip by Meranda, out of Lady Munday; Lady Munday got by imported San Martin, and out of Mrs. Mott imported.

No. 10. *MIRANDA*. Red with some white spots; calved 15th April, 1839; got by Berryman (as in No. 6 Bulls); d. Florida (as in No. 11 Cows); for portrait see No. 8, vol. 3, of the Western Farmer and Gardener.

No. 11. *FLORIDA*. Roan, calved 1st April, 1836; got by Young Bolivar; d. Pennsylvania by imported Bolivar (804); g. d. by imported Gloucester (1014); gr. g. d. by imported Champion (864); gr. gr. g. d. by Young Comet.

Young Bolivar, got by imported Bolivar (804); d. (Dr. Roger's Beauty) by imported Gloucester (1014); g. d. (Dr. Roger's Silver Skin) by imported Champion (864). For portrait see No. 7, vol. 3, of the Western Farmer and Gardener.

No. 12. *LADY ELLEN*. 1 year old; got by Prince Frederick (as in No. 1 Bulls); d. Juno (as in No. 3 Cows).

No. 13. *BLANDINA*. 1 year old; got by Prince Frederick (as in No. 1 Bulls); d. Florida (as in No. 11 Cows).

No. 14. *VENUS*. 1 year old; got by Napoleon (as in No. 2 Bulls); d. Kate Kearney (as in No. 5 Cows).

No. 15. *QUEEN OF THE WEST*. 9 months old; got by Prince Frederick (as in No. 1 Bulls); d. Lady Ann (as in No. 2 Cows).

No. 16. *ANNA*. 9 months old; got by Napoleon (as in No. 2 Bulls); d. Verbina (as in No. 9 Cows).

No. 17. *LIVINIA*. 4 months old; got by Clarkson's Colossus; d. Fortuna (as in No. 1 Cows).

Colossus, got in England by Colossus (1847); d. Minna by Edmund (1954).

No. 18. *CELESTINA*. 3 years old; got by Berryman (as in No. 6 Bulls); d. Juno (as in No. 3 Cows).

No. 19. *PRINCESS*. 2 weeks old; got by Neff's Prince William; d. Florida (as in No. 11 Cows).

Prince William, imported; got by Majesty (2250); d. Ruby by William (2339); g. d. by Wellington (2824); gr. g. d. by Blaine (75); gr. gr. g. d. by the Lame Bull (358); gr. gr. gr. g. d. by Bolinbroke (86).

A number of the Cows are now in calf to Prince William, Napoleon, and Prince Frederick.

THE FAST TROTTING

HORSE BELLFOUNDER.

Will stand at Middletown, Butler Co., Ohio, this year at \$6 for the season. He is a bright blood bay, with black legs, mane and tail; is 16 hands high, and weighs 1200 lbs. He has proved himself a first rate stock horse, some of his colts having sold near N. York for \$1000. He has trotted his mile in 2 min. 45 sec., and is every way a sound and desirable horse, his colts being equally adapted to the road and heavy farm work. Address DR. ANDREW CAMPBELL as above.

R. H. HENDRICKSON,

MIDDLETOWN, BUTLER COUNTY, OHIO,

Is now prepared to fill orders for thorough-bred Berkshire Pigs, from the late imported boars Windsor Castle, Earl Craven and Sultan, and twenty choice sows purchased of A. B. Allen, a part of his recent importation. Pigs in pairs from this superior stock will be furnished substantially caged and delivered on the canal at Middletown, or on board steamboat at Cincinnati, from \$30 to \$50 according to age and quality. Orders accompanied with cash, will always secure the preference.

ALSO—Pigs bred from the superb boar Kenilworth, of a stock of the largest and finest kinds of white hogs in England, also imported by Mr. Allen last October, crossed on the splendid large white Miami hogs of this country. The Miamis have been long noted for their large sizes. Animals of this breed have occasionally come up to the enormous weights of 1200 and 1400 lbs, and it is believed that the cross of Kenilworth on them, will easily attain the weights of 700 to 1000 lbs at 18 months and two years old, if well fattened. Pigs of this cross \$25 per pair caged and delivered as above.—Refer to the editors of this paper.

Dr. FEUCHTWANGER

Begs leave to inform the Agriculturists, that experiments are now instituting in various parts of the country for testing the virtues of his Seed Protector, a powder, sufficient of which is afforded for 3s. for 2 quarts of seed, which will preserve the seed of Corn, Rye, Oats, Wheat, Peas and other vegetables from the attack of the grubworm, and prevent all other insects, caterpillars and butterflies from touching the sprouting plant. He is desirous of having it fairly tested and will therefore be willing to let any farmer have a sample for experimenting. A Preparation to destroy all the insects infecting the fields and trees and indigenous and exotic plants, may likewise be had for 2s.

By addressing him at No. 1 Wall-st., any information on his favorite science of Scolicotoxicology, will be given with despatch.

M. I. SULLIVANT, of COLUMBUS, Ohio, has for sale *Shore Horn Cattle*, *Mules*, *Leicester Sheep*, and *Berkshire Pigs*.

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